M00146.AR.004890
MCAS CHERRY POINT
5090.3a

Final

# Remedial Investigation Report for Operable Unit 5, Sites 1 and 2

## (Volume 2—Appendixes)

## Marine Corps Air Station Cherry Point, North Carolina

Contract Task Order 0207

August 2005

Prepared for

**Department of the Navy**
**Atlantic Division**
**Naval Facilities Engineering Command**
**Norfolk, Virginia**

Under the

**LANTDIV CLEAN II Program**
**Contract N62470-95-D-6007**

Prepared by

CH2MHILL

**Virginia Beach, Virginia**

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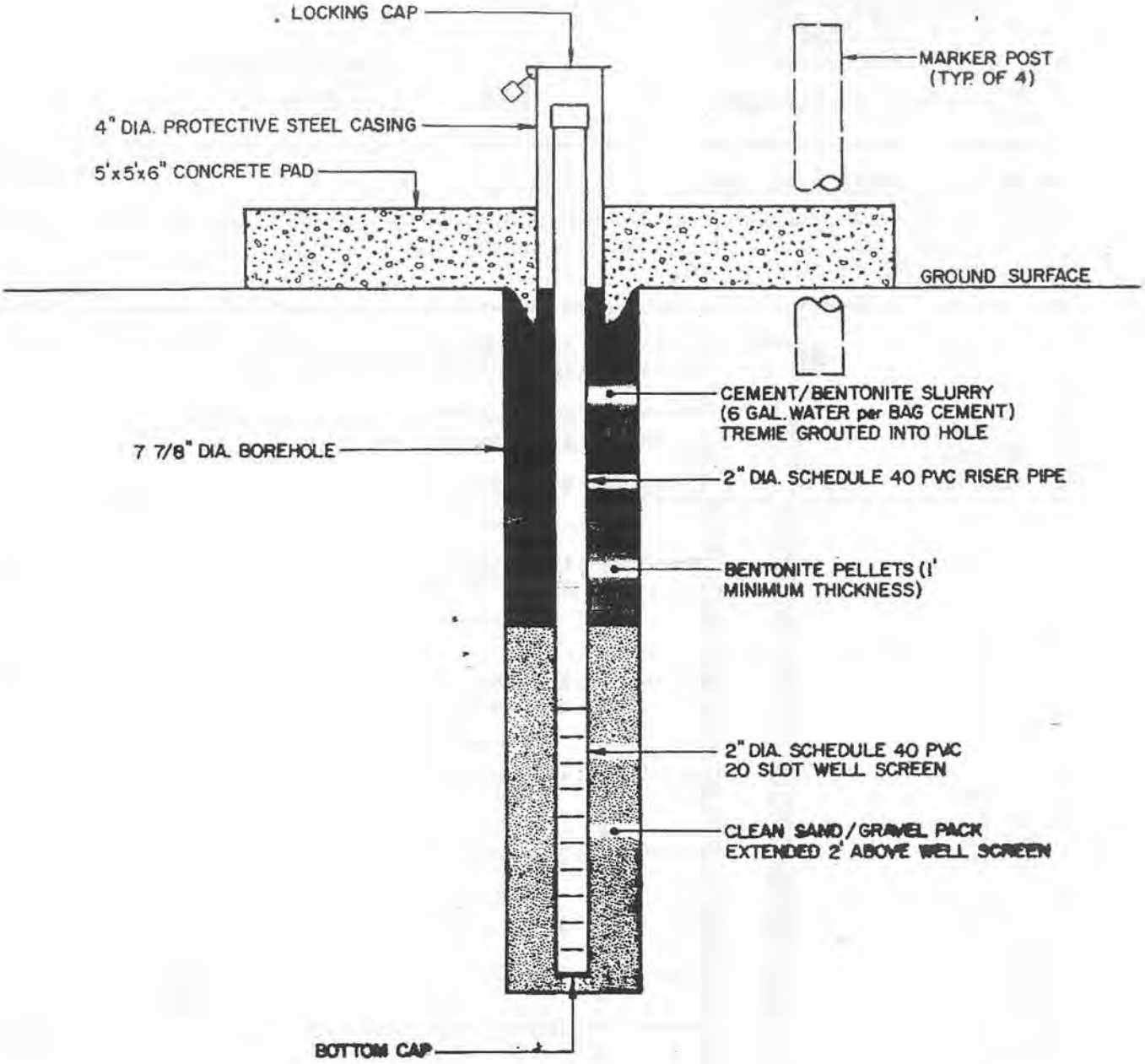
# Appendix A
# Historical Soil Boring and Well Construction Logs




SHALLOW MONITORING WELL CONSTRUCTION
MCAS CHERRY POINT, NC
NOT TO SCALE

NUS CORPORATION
A Halliburton Company

NUS CORPORATION
A Halliburton Company

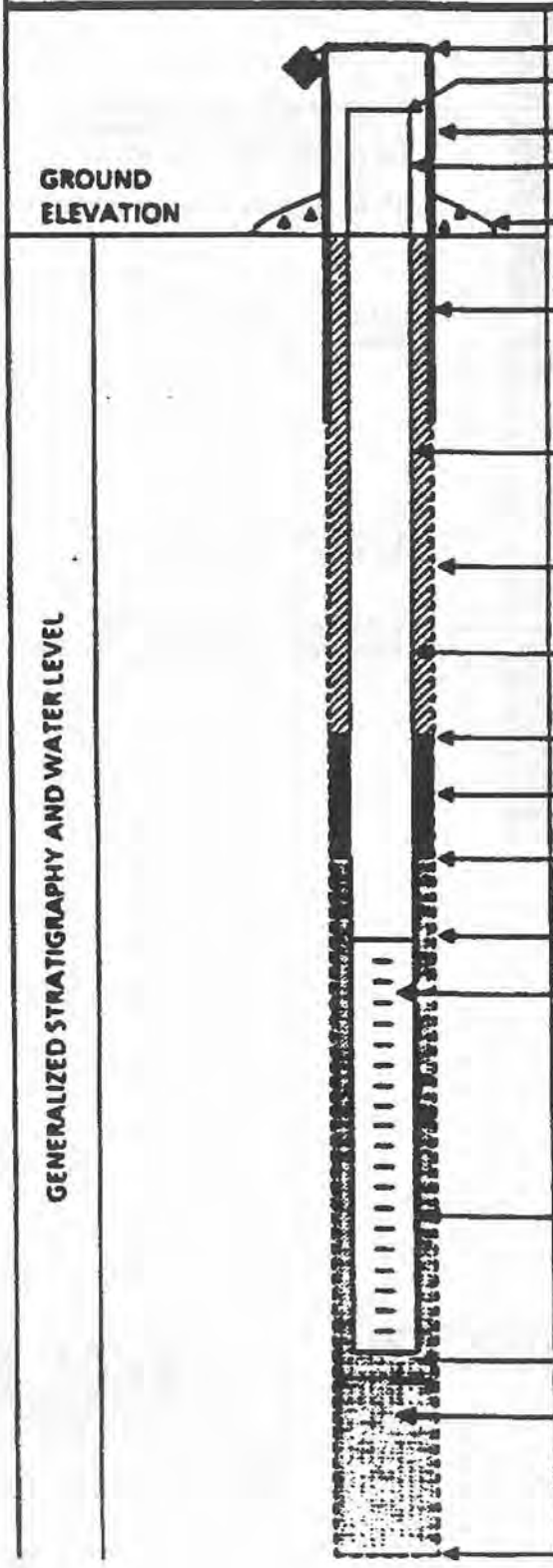
CF 1 [illegible]-3.13-06/01/93

# OVERBURDEN MONITORING WELL SHEET

PROJECT Cherry Point MCAS
PROJECT NO. 1540.AF01
ELEVATION
FIELD GEOLOGIST Jim Ferguson

LOCATION Site No 2
BORING 2GW03
DATE 10-17-85

DRILLER William Dew
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surface Pump




ELEVATION OF TOP OF SURFACE CASING :
ELEVATION OF TOP OF RISER PIPE:
STICK - UP TOP OF SURFACE CASING:
STICK - UP RISER PIPE :
TYPE OF SURFACE SEAL: Grout
I.D. OF SURFACE CASING: 4"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: Tsmco PVC
BOREHOLE DIAMETER: 10"
TYPE OF BACKFILL: Grout
ELEVATION / DEPTH TOP OF SEAL: 11'
TYPE OF SEAL: Bentonite Pellet
DEPTH TOP OF SAND PACK: 12'
ELEVATION / DEPTH TOP OF SCREEN: 13'
TYPE OF SCREEN: Tsmco PVC
SLOT SIZE x LENGTH: .010 5'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: No 2 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 18'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 10'
TYPE OF BACKFILL BELOW OBSERVATION WELL: No 2. Sand
ELEVATION / DEPTH OF HOLE 10'

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point, North Carolina
PROJECT NO. 7095 BORING 1GW01
ELEVATION ≈ 25' DATE 11/28/84
FIELD GEOLOGIST Vicki Pierce

| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0.0-1.5 | 2-3-3 | 16" | | very loose | gray | Poorly graded, silty sand organic at top | SM | |
| 1.5-3.0 | 4-4-4 | 16" | | very loose | tan | Clayey sand with dark brown organic streaking | SC | |
| 3.0-4.5 | 2-3-4 | 17" | ▽7.0' | very loose | tan | gray sandy clay at top to clayey sand at bottom | SC | |
| | | | | | | | | Strata change at 7.5' from silty sand to blue gray clay |
| 13.5-15.0 | 2-3-6 | 18" / 100% | | | tan | Clay at top (CH) changing to poorly graded silty sand at bottom (SM) | | Strata change at 14.5' |
| 18.5-20.0 | 1-1-1 | 18" / 100% | | | red orange | flowing poorly graded silty sand (red orange) to gray silty sand and shells at base. | | flowing sands |
| | | | | | | | | Strata change at 19.5' |
| 23.5-25 | 1-1-2 | 18" / 100% | | | gray | sandy clay with shells | | |

REMARKS Well installed to 25.0' deep. Sand to 12' below surface. Bentonite from 12' to 9' deep. Screen length 15'. Well diameter is 2" OD PVC Schedule 40

BORING 1GW01

SEE LEGEND ON BACK Water Table measured 8.0' below ground when well was set

PAGE 1 OF 1

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Pt U.S.M.C.A.S
PROJECT NO. 7095 BORING 1-GW-02
ELEVATION ~20' DATE 11/29/84
FIELD GEOLOGIST L. Reitz

| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS OVA (in bld) |
|---|---|---|---|---|---|---|---|---|
| | 2 3 | 100% / 1.5' | damp | soft | yel grey | sandy clay | CL | 0 |
| | 3 2 | % / | | v. loose | lt orange | clayey sand, some limonite stains | SC | 0 |
| | 3 3 | 100 / 1.5' | damp | v. loose | orange grey | interbedded fine sands and | SC. | 0 |
| | 2 4 | 100% / 1.5' | damp | | | clay, some shell fragments; | | |
| 5' | 4 | | | | | limonite staining | | |
| | 4 7 | 100% / 1.5' | damp | v. loose | lt yel brown | fine to v. coarse sand, and | SW | 0 |
| 10' | 3 | | | | | shell fragments, clay lense (.2') | | |
| | | | | | | some fine gravel | | |
| | 3 | 100% / 1.5' | wet | | | | | |
| 15' | 2 2 | | | | | becomes silty | | |
| | | | | | | | | 0 |
| | 5 | 100% / 1.5' | | loose | | | | |
| 20' | 8 9 | | | | | | | 0 |
| | 13 | 66% / 1.0' | | med dense | yel grey | v. fine to med sand, some limonite | | 0 |
| 25' | 23 31 | | | | | stains | | |

REMARKS

BORING 1GW-02

*SEE LEGEND ON BACK

PAGE 1 OF 1

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point, NC
PROJECT NO. 7095 BORING IGW03
ELEVATION DATE
FIELD GEOLOGIST Vicki Perez

| SAMPLE NO., TYPE & DEPTH(ft) | BLOWS/SIX INCHES OR RQD(%) | SAMPLE RECOVERY/ SAMPLE LENGTH(ft) | MATERIAL MOISTURE & WATER DEPTH(ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 2-5-7 | 18" / 100% | | | tan | silty, clayey sand | | |
| 1.5-3.0 | 4-6-6 | 18" | | | tan | organic grading to clay to sand | | |
| 3.0-4.5 | 5-5-2 | 18" | | | tan | organic material at top grading to sandy clay at bottom | | OVA at hole 3 ppm (1 ppm calib. |
| 8.5-10.5 | 2-7-1 | 18" | wet | | gray | organic silty sand at top to gray silty sand at bottom. lense of red brown silty sand in middle. | | strata change pulled drag pd. benzene 10' hit water |
| 13.5-15.5 | 1/6" / 12" | 18" | | | gray to red brown | gray silty sand at top to red brown sand at bottom 6" | | |
| 18.5-20.5 | 1/6" to / 12" | 18" | | | gray to red brown to gray | gray silty sand to red brown silty sand to gray silty sand with some gravel | | |
| 23.5-25.5 | 7-16-24 | 18" | | | gray | alternating red and gray silty sand, (predominantly gray) with small gravels and shells. Gravel well rounded | | |

REMARKS Pulled hydrocarbon + benzene drags at 10'. both present. Sand filled to 8½' below ground. 2" ~~pp~~ PVC 40 schedule. Bentonite filled in ½ bucket

BORING IGW03

*SEE LEGEND ON BACK

(1) Blow count may appear artificially high - driller far spoon filled early

PAGE ____ OF ____

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point MCAS
PROJECT NO. 9540.AF01 BORING 16W04 A
ELEVATION DATE 10-15-85
FIELD GEOLOGIST Jim Ferguson

| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (in) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMAR |
|---|---|---|---|---|---|---|---|---|
| 0-.5 | 2 | " / | | LOOSE | BLACK-BROWN | SOIL | | |
| .5-1 | 4 | 11" / 18" | | LOOSE | ORANGE-BROWN | CLAY | CL | HNU-0 |
| 1-1.5 | 7 | / | | LOOSE | ORANGE-BROWN | CLAY | CL | |
| | | | | | | | | |
| 3.5-4 | 6 | / | | LOOSE | ORANGE BROWN | CLAY | CL | — |
| 4-4.5 | 4 | 17" / 18" | | LOOSE | TAN | FINE-GRAINED CLAYEY SAND | SC | HNU-0 |
| 4.5-5 | 3 | / | ▽ | LOOSE | TAN | FINE-GRAINED SILTY SAND | SM | |
| | | | | | | | | |
| 8.5-9 | 2 | / | | LOOSE | TAN | FINE GRAINED SILTY SAND | SM | |
| 9-9.5 | 1 | 12 / 18" | | LOOSE | TAN-ORANGE | FINE GRAINED SILTY SAND | SM | HNU-0 |
| 9.5-10 | 2 | / | | LOOSE | TAN-ORANGE | FINE GRAINED SILTY SAND | SM | |
| | | | | | | | | |
| 13.5-14 | 2 | / | | LOOSE | ORANGE BROWN | FINE GRAINED SILTY SAND | SM | |
| 14-14.5 | 4 | 13" / 18" | | LOOSE | ORANGE-BROWN | FINE GRAINED SILTY SAND | SM | HNU-0 |
| 14.5-15 | 2 | / | | LOOSE | ORANGE-BROWN | FINE GRAINED SILTY SAND | SM | |
| | | | | | | | | |
| 18.5-19 | 3 | / | | LOOSE | ORANGE-BROWN | FINE-GRAINED SAND | SP | |
| 19-19.5 | 5 | 14" / 18" | | LOOSE | ORANGE-BROWN | FINE-GRAINED SAND | SP | HNU-0 |
| 19.5-20 | 4 | / | | LOOSE | ORANGE BROWN | FINE-GRAINED SAND | SP | |
| | | | | | | | | |
| 23.5-24 | 4 | / | | LOOSE | TAN- | FINE GRAINED SILTY SAND | SM | |
| 24-24.5 | 4 | 15" / 18" | | LOOSE | TAN- | FINE GRAINED SILTY SAND | SM | HNU-0 |
| 24.5-25 | 12 | / | | MD DENSE | TAN- | FINE GRAINED SILTY SAND | SM | |
| | | | | | | | | |
| 28.5-29 | 7 | | | | TAN | FINE GRAINED SILTY SAND | SM | |

REMARKS

BORING 16W04

*SEE LEGEND ON BACK

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point MCAS
PROJECT NO. 9540 AF01 BORING 16WAY A
ELEVATION DATE 10-16-85
FIELD GEOLOGIST Jim Ferguson

| SAMPLE NO. TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (in) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 27-27.5 | 6 | 18" | | MD DENSE | GREY | VERY FINE-GRAINED SILTY SAND | SM | HNU-0 |
| 27.5-30 | 9 | | | MD DENSE | GREY | VERY FINE-GRAINED SILTY SAND | SM | SHELL FRAGS |
| 30-30.5 | 5 | " | | LOOSE | BLUE-GREY | VERY FINE-GRAINED SILTY SAND | SM | |
| 30.5-31 | 5 | 6 / 18" | | LOOSE | BLUE-GREY | VERY FINE-GRAINED SILTY SAND | SM | HNU-0 |
| 31-31.5 | 8 | | | MD DENSE | BLUE-GREY | VERY FINE-GRAINED SILTY SAND | SM | |
| 31.5-32 | 6 | | | MD DENSE | BLUE-GREY | SANDY SILT | ML | |
| 32-32.5 | 7 | 18" / 18" | | MD DENSE | BLUE-GREY | SANDY SILT | ML | HNU-0 |
| 32.5-33 | 12 | | | MD DENSE | BLUE-GREY | SANDY SILT | ML | |
| 33-33.5 | 6 | " | | MD DENSE | BLUE-GREY | SANDY SILT | ML | |
| 33.5-34 | 7 | 18 / 18" | | MD DENSE | BLUE-GREY | SANDY SILT | ML | HNU-0 |
| 34-34.5 | 9 | | | MD DENSE | BLUE-GREY | SANDY SILT | ML | |
| 34.5-35 | 7 | | | MD DENSE | BLUE-GREY | SANDY SILT | ML | |
| 35-35.5 | 9 | 18" / 18" | | MD DENSE | BLUE-GREY | SANDY SILT | ML | HNU-0 |
| 35.5-36 | 9 | | | MD DENSE | BLUE-GREY | SANDY SILT | ML | |
| 36-36.5 | | | | | | | | |
| 36.5-37 | | | | | | | | |
| 37-37.5 | | | | | | | | |
| 37.5-38 | | | | | | | | |
| 38-38.5 | | | | | | | | |
| 38.5-39 | | | | | | | | |
| 39-39.5 | | | | | | | | |
| 39.5-40 | | | | | | | | |
| 40-40.5 | | | | | | | | |
| 40.5-41 | | | | | | | | |
| 41-41.5 | | | | | | | | |

REMARKS

BORING 16WAY A

*SEE LEGEND ON BACK

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point MCAS
PROJECT NO. 9540.AF01 BORING 16WD4 (B)
ELEVATION DATE 10-16-85
FIELD GEOLOGIST Jim Ferguson

| SAMPLE NO., TYPE* & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (in) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0-.5 | 4 | / | | LOOSE | BROWN | CLAY | CL | |
| .5-1 | 3 | 14/18" | | LOOSE | ORANGE | FINE GRAINED SILTY SAND | SM | |
| 1-1.5 | 2 | / | | LOOSE | ORANGE | FINE GRAINED SILTY SAND | SM | |
| 3.5-4 | | / | | | | | | |
| 4-4.5 | | / | | | | | | |
| 4.5-5 | | / | | | | | | |
| 8.5-9 | 4 | / | | LOOSE | | FINE GRAINED SILTY SAND | SM | |
| 9-9.5 | 3 | 14"/20" | | LOOSE | | FINE GRAINED SILTY SAND | SM | |
| 9.5-10 | 5 | / | | LOOSE | | FINE GRAINED SILTY SAND | SM | |
| 13.5-14 | | / | | | | | | |
| 14-14.5 | | / | | | | | | |
| 14.5-15 | | / | | | | | | |
| 18.5-19 | 2 | / | | LOOSE | ORANGE-BROWN | FINE GRAINED SAND | SP | |
| 19-19.5 | 3 | 12/18" | | LOOSE | ORANGE-BROWN | FINE GRAINED SAND | SP | HNU-0 |
| 19.5-20 | 2 | / | | LOOSE | ORANGE-BROWN | FINE GRAINED SAND | SP | |
| 23.5-24 | | / | | | | | | |
| 24-24.5 | | / | | | | | | |
| 24.5-25 | | / | | | | | | |
| 28.5-29 | 5 | / | | LOOSE | TAN-BROWN | | | |
| 29-29.5 | 3 | 14/18" | | LOOSE | TAN-BROWN | | | HNU-0 |
| 29.5-30 | 3 | / | | LOOSE | TAN-BROWN | | | |
| 33.5-34 | 15 | / | | DENSE | BROWN | COARSE-GRAINED SAND | SP | |
| 34-34.5 | 25 | 8/18" | | V DENSE | BROWN | COARSE-GRAINED SAND | SP | [illegible] |
| 34.5-35 | 25 | / | | V DENSE | BROWN | COARSE-GRAINED SAND | SP | |
| 35-35.5 | 10 | | | DENSE | BLUE-GREY | COARSE GRAINED SILTY SAND | SM | |

REMARKS * WELL INSTALLED AT THIS LOCATION MIDWAY BETWEEN SITE 1 AND 2

BORING 16WD4 B

*SEE LEGEND ON BACK

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point MCAS
PROJECT NO. 9340.AF01 BORING 16W04(B)
ELEVATION DATE 10-16-93
FIELD GEOLOGIST Jim Ferguson

| SAMPLE NO., TYPE & DEPTH (ft.) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARK |
|---|---|---|---|---|---|---|---|---|
| 35.5-36 | 10 | / | | Dense | Blue-Grey | Coarse Grained Silty Sand | SM | |
| 36-36.5 | 10 | / 18" | | Dense | Blue-Grey | Coarse Grained Silty Sand | SM | |

REMARKS

BORING 16W04B

*SEE LEGEND ON BACK

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Pt. USMCAS
PROJECT NO. 7095 BORING 2GW-01
ELEVATION ~5' DATE 11/29/84
FIELD GEOLOGIST L. Peitz

| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS OVA |
|---|---|---|---|---|---|---|---|---|
| | 1 1 1 1 | 10% / .2' | wet | soft | dk brown | peat | Pt | 4 ppm |
| | 1 1 1 1 | 0% / | wet | | | | | 4 |
| 5' | 1 1 1 1 | 10% / .2' | wet | | | | | 3 |
| 10' | | 100% / 1.5' | | | | | | 3 |
| 15' | 3 9 12 | 100% / 1.5' | wet | soft / loose | dk brown / med grey | clayey sandy peat / v. fine to coarse sand and shells | Pt / SW | 2 / 1 |
| 20' | 4 6 6 | 100% / 1.5' | | | | | | |
| 25' | 8 10 12 | 100% / 1.5' | | | | shells decreasing | | |

REMARKS rig on peat mat, lower side of landfill

BORING 2GW-01

*SEE LEGEND ON BACK

PAGE 1 OF 1

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Pt USMCAS
PROJECT NO. 7095 BORING 2GW-02
ELEVATION ~15' DATE 11/28/84
FIELD GEOLOGIST L Pete

| SAMPLE NO. TYPE & DEPTH(ft) | BLOWS/SIX INCHES OR RQD(%) | SAMPLE RECOVERY/ SAMPLE LENGTH(ft) | MATERIAL MOISTURE & WATER DEPTH(ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS OVA |
|---|---|---|---|---|---|---|---|---|
| | 3 3 | 66% 1.0' | damp | v loose | lt yel grey | silty, fine to med. sand, some roots | SW | 0 |
| | 2 2 | | | | | | | |
| | 1 2 | 60% 1.0' | damp | med stiff | lt yel grey | fine sandy clay, some limonite | | |
| | 3 9 | 100% | damp | | | staining, sand dec. w/ depth, rare roots | ML | 0 |
| 5' | 10 | 1.5 | | med. dense | lt orange | fine to med sand, some roots | SP | 0 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 2 | | v. damp | v. loose | lt yel, lt grey | fine to v. coarse sand, some pebbles | SP | 0 |
| 10' | 3 4 | 100% 1.5' | | | | rare clay lense, some limonite staining | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 2 | | v. damp | v. loose | lt yel. brn | fine to coarse sand | SW | 0 |
| 15' | 3 2 | 100% 1.5' | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 1 | | wet | soft | dk red brn | sandy silt | MH | 0 |
| 20' | 1 1 | 100% 1.5' | | v. loose | dk red brn | v fine to med. sand | SP | |
| | | | | | | yel, grey sand and shells at btm | | |
| | | | | | | | | |
| | | | | | | | | |
| | 10 | | | dense | yel grey | fine to med sand, and shells | GM | 0 |
| 25' | 13 12 | 100% 1.5' | | | | | | |

REMARKS located at toe of the landfill.

BORING 2GW-02

*SEE LEGEND ON BACK

PAGE 1 OF 1

NUS CORPORATION
A Halliburton Company

PROJECT Cherry Point N.C.
PROJECT NO. 7540 A501 BORING [illegible]
ELEVATION DATE 10-17-85
FIELD GEOLOGIST Jim Ferguson

| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/ SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | USCS OR ROCK BROKENNESS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0-.5 | 1 | / | | V. Loose | Black | Organic Material (Roots) | OM | |
| .5-1 | 2 | 12"/18" | | V Loose | Black-Brown | Fine Grained Silty Sand (Roots) | SM | HNU-0 |
| 1-1.5 | 3 | / | ▽ | Loose | Tan | Fine-Grained Silty Sand (Roots) | SM | |
| | | | | | | | | |
| 3.5-4 | 1 | / | | V. Loose | Black-Brown | Peat | PT | |
| 4-4.5 | 2 | 18"/18" | | V Loose | Black-Brown | Peat | PT | HNU-0 |
| 4.5-5 | 1 | / | | V Loose | Black-Grey | Fine Grained Silty Sand (Roots) | SM | |
| | | | | | | | | |
| 8.5-9 | 4 | | | V. Loose | Black Brown | Peat | PT | |
| 9-9.5 | 2 | | | V. Loose | Black Brown | Peat | PT | HNU-0 |
| 9.5-10 | 1 | | | V. Loose | Tan | Fine Grained Silty Sand (Roots) | SM | |

REMARKS

BORING 26W03

*SEE LEGEND ON BACK

PAGE 1 OF 1

# Appendix B
# Site Visit Photographs

# Appendix C
# Off-Site Laboratory Data

**Sample Nomenclature**

**Nomenclature**

***Sample Number***
Each sample will be designated by an alphanumeric code that identifies the site, matrix sampled, sequential sample number, and depth. Site-specific procedures are elaborated below.

The following is a general guide for sample identification:

| First Segment of Sample Number | Second Segment of Sample Number | Third Segment of Sample Number | Fourth Segment of Sample Number |
|---|---|---|---|
| **Location** | **Site Location** | **Matrix Type** | **Additional Qualifiers (Sample Number)** |
| OU5 | AN | NN | AA |

* All Samples collected at Operable Unit 5 Begin with "OU5"

Symbol Definition:

"A" = Alphabetic
"N" = Numeric

Site Number:

AN = Identifies he site on the facility where the sample will be collected (i.e. S2 = Site 2)

Sample Type:

AA = Two-letter abbreviation identifying the media or sample type collected. Below are the abbreviations for the types we will be collecting:

SS = Surface Soil Sample
SB = Subsurface Soil Sample
SW = Surface Water
SD = Sediment
MW = Monitoring Well Groundwater Sample
TW = Temporary Monitoring Well Groundwater Sample
TB = Trip Blank
EB = Equipment Blank
FB = Field Blank

Sample Number:

NN = Identifies the location on the facility where the sample will be collected.

Examples of this numbering approach are:

OU5-S1-MW01 Operable Unit 5, Site 1, Monitoring Well 01.

**Table C-1**
**Site 1**
**Surface Soil Analytical Data**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SO01 | OU5-S1-SO02 | OU5-S1-SO03 | OU5-S1-SO04 | | OU5-S1-SO05 | OU5-S1-SO06 | OU5-S1-SO07 | | OU5-S1-SO08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SS01-01 | OU5-S1-SS02-01 | OU5-S1-SS03-01 | OU5-S1-SS04-01 | OU5-S1-SS04-P-01 | OU5-S1-SS05-01 | OU5-S1-SS06-01 | OU5-S1-SS07-01 | OU5-S1-SS07-P-01 | OU5-S1-SS08-01 |
| Sample Date | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 |
| **Chemical Name** | | | | | | | | | | |
| | | | | | | | | | | |
| **Volatile Organic Compounds (UG/KG)** | | | | | | | | | | |
| 1,1,1-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1,2,2-Tetrachloroethane | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1,2-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2,4-Trichlorobenzene | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dibromo-3-chloropropane | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dibromoethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichlorobenzene | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloropropane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,3-Dichlorobenzene | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,4-Dichlorobenzene | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 UJ | 14 J | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Methyl-2-pentanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Acetone | 5 U | 5 U | 5 U | 26 UJ | 220 J | 5 U | 56 | 11 U | 24 U | 21 U |
| Benzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Bromodichloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Bromoform | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Bromomethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Carbon disulfide | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloroform | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Cumene | 5 U | 5 U | 5 U | 5 UJ | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| Cyclohexane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibromochloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dichlorodifluoromethane(Freon-12) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U |
| Ethylbenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Methyl acetate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Methyl-tert-butyl ether (MTBE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Methylcyclohexane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Methylene chloride | 11 U | 7 U | 5 U | 5 U | 7 U | 5 U | 5 U | 8 U | 8 U | 8 U |
| Styrene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Tetrachloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Toluene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Trichlorofluoromethane(Freon-11) | 5 U | 5 U | 4 J | 5 J | 9 J | 4 J | 5 | 4 J | 8 J | 5 |
| Vinyl chloride | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

**Table C-1**
**Site 1**
**Surface Soil Analytical Data**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SO01 | OU5-S1-SO02 | OU5-S1-SO03 | OU5-S1-SO04 | | OU5-S1-SO05 | OU5-S1-SO06 | OU5-S1-SO07 | | OU5-S1-SO08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SS01-01 | OU5-S1-SS02-01 | OU5-S1-SS03-01 | OU5-S1-SS04-01 | OU5-S1-SS04-P-01 | OU5-S1-SS05-01 | OU5-S1-SS06-01 | OU5-S1-SS07-01 | OU5-S1-SS07-P-01 | OU5-S1-SS08-01 |
| Sample Date | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 |
| **Chemical Name** | | | | | | | | | | |
| cis-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| trans-1,2-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| trans-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| | | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/KG)** | | | | | | | | | | |
| 1,1-Biphenyl | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2,2'-Oxybis(1-chloropropane) | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2,4,5-Trichlorophenol | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| 2,4,6-Trichlorophenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2,4-Dichlorophenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2,4-Dimethylphenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2,4-Dinitrophenol | 910 U | 910 U | 910 U | 1,000 U | 1,000 UJ | 910 U | 1,200 U | 910 U | 910 UJ | 910 U |
| 2,4-Dinitrotoluene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2,6-Dinitrotoluene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2-Chloronaphthalene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2-Chlorophenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2-Methylnaphthalene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2-Methylphenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 2-Nitroaniline | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| 2-Nitrophenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 3,3'-Dichlorobenzidine | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 3-Nitroaniline | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| 4,6-Dinitro-2-methylphenol | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| 4-Bromophenyl-phenylether | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 4-Chloro-3-methylphenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 4-Chloroaniline | 360 U | 360 U | 360 U | 400 U | 400 UJ | 360 U | 460 U | 360 U | 360 UJ | 360 U |
| 4-Chlorophenyl-phenylether | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 4-Methylphenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| 4-Nitroaniline | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| 4-Nitrophenol | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| Acenaphthene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Acenaphthylene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Acetophenone | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Anthracene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Atrazine | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Benzaldehyde | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Benzo(a)anthracene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Benzo(a)pyrene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Benzo(b)fluoranthene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Benzo(g,h,i)perylene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Benzo(k)fluoranthene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Butylbenzylphthalate | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Caprolactam | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Carbazole | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Chrysene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Di-n-butylphthalate | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Di-n-octylphthalate | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |

**Table C-1**
**Site 1**
**Surface Soil Analytical Data**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SO01 | OU5-S1-SO02 | OU5-S1-SO03 | OU5-S1-SO04 | | OU5-S1-SO05 | OU5-S1-SO06 | OU5-S1-SO07 | | OU5-S1-SO08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SS01-01 | OU5-S1-SS02-01 | OU5-S1-SS03-01 | OU5-S1-SS04-01 | OU5-S1-SS04-P-01 | OU5-S1-SS05-01 | OU5-S1-SS06-01 | OU5-S1-SS07-01 | OU5-S1-SS07-P-01 | OU5-S1-SS08-01 |
| Sample Date | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 |
| **Chemical Name** | | | | | | | | | | |
| Dibenz(a,h)anthracene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Dibenzofuran | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Diethylphthalate | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Dimethyl phthalate | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Fluoranthene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Fluorene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Hexachlorobenzene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Hexachlorobutadiene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Hexachlorocyclopentadiene | 360 U | 360 U | 360 U | 400 U | 400 UJ | 360 U | 460 U | 360 U | 360 UJ | 360 U |
| Hexachloroethane | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Indeno(1,2,3-cd)pyrene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Isophorone | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Naphthalene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Nitrobenzene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Pentachlorophenol | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 910 U | 1,200 U | 910 U | 910 U | 910 U |
| Phenanthrene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Phenol | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| Pyrene | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| bis(2-Chloroethoxy)methane | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| bis(2-Chloroethyl)ether | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| bis(2-Ethylhexyl)phthalate | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| n-Nitroso-di-n-propylamine | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| n-Nitrosodiphenylamine | 360 U | 360 U | 360 U | 400 U | 400 U | 360 U | 460 U | 360 U | 360 U | 360 U |
| | | | | | | | | | | |
| **Total Metals (MG/KG)** | | | | | | | | | | |
| Arsenic | 0.98 | 1.6 | 1.5 | 2 | 1.6 | 2.4 | 1.7 | 4.9 | 4.7 | 2.6 |
| Barium | 18.5 | 20.8 | 24 | 22.2 | 18.1 J | 12.3 J | 12.7 J | 6.8 J | 7.6 J | 22.1 |
| Cadmium | 0.07 J | 0.06 J | 0.03 | 0.03 | 0.03 U | 0.03 | 0.04 | 0.03 | 0.03 U | 0.07 U |
| Chromium | 4.3 | 11.1 | 17.4 | 17 | 12.2 K | 7.8 | 7.3 | 11.1 | 10.2 K | 11 |
| Lead | 11.4 | 11.6 | 8.6 | 7.7 | 6.6 | 6 | 7.6 | 5.4 | 5.7 | 34.6 |
| Mercury | 0.04 | 0.03 J | 0.03 J | 0.05 | 0.04 | 0.02 J | 0.04 | 0.01 | 0.01 U | 0.04 |
| Selenium | 0.38 U | 0.52 | 0.37 U | 0.46 U | 0.43 U | 0.4 J | 0.53 U | 0.48 J | 0.41 U | 0.5 |
| Silver | 0.11 U | 0.11 U | 0.11 U | 0.14 U | 0.19 U | 0.12 U | 0.16 U | 0.13 U | 0.16 U | 0.12 U |
| | | | | | | | | | | |
| **Wet Chemistry** | | | | | | | | | | |
| % Solids | 91 | 92 | 86 | 85 | 85 | 90 | 70 | 90 | 91 | 89 |
| Total organic carbon (TOC) (MG/KG) | 32,900 | 18,900 | NA | 15,400 | NA | NA | NA | 2,700 | NA | NA |
| pH | 10.6 | 5.5 | NA | 5 | NA | NA | NA | 4.5 | NA | NA |

Notes:
NA - Not Analyzed
J - Reported result may not be accurate or precise
K - Reported result may be biased high
U - Not detected
Detects are shaded

**Table C-2**
**Site 1**
**Subsurface Soil Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SO01 | OU5-S1-SO02 | | OU5-S1-SO03 | OU5-S1-SO04 | OU5-S1-SO05 | OU5-S1-SO06 | OU5-S1-SO07 | OU5-S1-SO08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SB01-04 | OU5-S1-SB02-04 | OU5-S1-SB02-P-04 | OU5-S1-SB03-04 | OU5-S1-SB04-04 | OU5-S1-SB05-04 | OU5-S1-SB06-04 | OU5-S1-SB07-04 | OU5-S1-SB08-04 |
| Sample Date | 04/18/02 | 04/17/02 | 04/17/02 | 04/17/02 | 04/17/02 | 04/18/02 | 04/18/02 | 04/18/02 | 04/18/02 |
| **Chemical Name** | | | | | | | | | |
| | | | | | | | | | |
| **Volatile Organic Compounds (UG/KG)** | | | | | | | | | |
| 1,1,1-Trichloroethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,1,2,2-Tetrachloroethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,1,2-Trichloroethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,1-Dichloroethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,1-Dichloroethene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,2,4-Trichlorobenzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,2-Dibromo-3-chloropropane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,2-Dibromoethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,2-Dichlorobenzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,2-Dichloroethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,2-Dichloropropane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,3-Dichlorobenzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 1,4-Dichlorobenzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 2-Butanone | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 2-Hexanone | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| 4-Methyl-2-pentanone | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Acetone | 5 U | 4 J | 7 J | 8 U | 5 U | 5 U | 22 UJ | 5 J | 5 U |
| Benzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Bromodichloromethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Bromoform | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Bromomethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Carbon disulfide | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Carbon tetrachloride | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Chlorobenzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Chloroethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Chloroform | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 4 J | 5 U |
| Chloromethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Cumene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Cyclohexane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Dibromochloromethane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Dichlorodifluoromethane(Freon-12) | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Ethylbenzene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Methyl acetate | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Methyl-tert-butyl ether (MTBE) | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Methylcyclohexane | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Methylene chloride | 5 U | 6 U | 6 U | 10 U | 5 U | 5 U | 6 UJ | 8 U | 5 U |
| Styrene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Tetrachloroethene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Toluene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Trichloroethene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| Trichlorofluoromethane(Freon-11) | 5 U | 9 J | 4 J | 13 | 5 U | 7 | 14 J | 45 | 25 |
| Vinyl chloride | 5 U | 6 U | 6 U | 8 U | 5 UJ | 5 U | 6 UJ | 6 U | 5 U |
| Xylene, total | 5 U | 6 U | 6 U | 8 U | 5 UJ | 5 U | 6 UJ | 6 U | 5 U |

Table C-2
Site 1
Subsurface Soil Analytical Results
OU5 Remedial Investigation
MCAS Cherry Point

| Station ID | OU5-S1-SO01 | OU5-S1-SO02 | | OU5-S1-SO03 | OU5-S1-SO04 | OU5-S1-SO05 | OU5-S1-SO06 | OU5-S1-SO07 | OU5-S1-SO08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SB01-04 | OU5-S1-SB02-04 | OU5-S1-SB02-P-04 | OU5-S1-SB03-04 | OU5-S1-SB04-04 | OU5-S1-SB05-04 | OU5-S1-SB06-04 | OU5-S1-SB07-04 | OU5-S1-SB08-04 |
| Sample Date | 04/18/02 | 04/17/02 | 04/17/02 | 04/17/02 | 04/17/02 | 04/18/02 | 04/18/02 | 04/18/02 | 04/18/02 |
| **Chemical Name** | | | | | | | | | |
| cis-1,2-Dichloroethene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| cis-1,3-Dichloropropene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| trans-1,2-Dichloroethene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| trans-1,3-Dichloropropene | 5 U | 6 U | 6 U | 8 U | 5 U | 5 U | 6 UJ | 6 U | 5 U |
| | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/KG)** | | | | | | | | | |
| 1,1-Biphenyl | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2,2'-Oxybis(1-chloropropane) | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2,4,5-Trichlorophenol | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| 2,4,6-Trichlorophenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2,4-Dichlorophenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2,4-Dimethylphenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2,4-Dinitrophenol | 1,000 UJ | 1,100 UJ | 1,100 UJ | 1,200 UJ | 1,000 UJ | 910 UJ | 1,000 UJ | 1,000 UJ | 910 UJ |
| 2,4-Dinitrotoluene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2,6-Dinitrotoluene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2-Chloronaphthalene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2-Chlorophenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2-Methylnaphthalene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2-Methylphenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 2-Nitroaniline | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| 2-Nitrophenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 3,3'-Dichlorobenzidine | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 3-Nitroaniline | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| 4,6-Dinitro-2-methylphenol | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| 4-Bromophenyl-phenylether | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 4-Chloro-3-methylphenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 4-Chloroaniline | 400 UJ | 430 UJ | 430 UJ | 460 UJ | 400 UJ | 360 UJ | 400 UJ | 400 UJ | 360 UJ |
| 4-Chlorophenyl-phenylether | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 4-Methylphenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| 4-Nitroaniline | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| 4-Nitrophenol | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| Acenaphthene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Acenaphthylene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Acetophenone | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Anthracene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Atrazine | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Benzaldehyde | 400 UJ | 430 U | 430 U | 460 U | 400 U | 360 UJ | 400 UJ | 400 UJ | 360 UJ |
| Benzo(a)anthracene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Benzo(a)pyrene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Benzo(b)fluoranthene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Benzo(g,h,i)perylene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Benzo(k)fluoranthene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Butylbenzylphthalate | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Caprolactam | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Carbazole | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Chrysene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |

**Table C-2**
**Site 1**
**Subsurface Soil Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SO01 | OU5-S1-SO02 | | OU5-S1-SO03 | OU5-S1-SO04 | OU5-S1-SO05 | OU5-S1-SO06 | OU5-S1-SO07 | OU5-S1-SO08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SB01-04 | OU5-S1-SB02-04 | OU5-S1-SB02-P-04 | OU5-S1-SB03-04 | OU5-S1-SB04-04 | OU5-S1-SB05-04 | OU5-S1-SB06-04 | OU5-S1-SB07-04 | OU5-S1-SB08-04 |
| Sample Date | 04/18/02 | 04/17/02 | 04/17/02 | 04/17/02 | 04/17/02 | 04/18/02 | 04/18/02 | 04/18/02 | 04/18/02 |
| **Chemical Name** | | | | | | | | | |
| Di-n-butylphthalate | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Di-n-octylphthalate | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Dibenz(a,h)anthracene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Dibenzofuran | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Diethylphthalate | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Dimethyl phthalate | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Fluoranthene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Fluorene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Hexachlorobenzene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Hexachlorobutadiene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Hexachlorocyclopentadiene | 400 UJ | 430 UJ | 430 UJ | 460 UJ | 400 UJ | 360 UJ | 400 UJ | 400 UJ | 360 UJ |
| Hexachloroethane | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Indeno(1,2,3-cd)pyrene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Isophorone | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Naphthalene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Nitrobenzene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Pentachlorophenol | 1,000 U | 1,100 U | 1,100 U | 1,200 U | 1,000 U | 910 U | 1,000 U | 1,000 U | 910 U |
| Phenanthrene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Phenol | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| Pyrene | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| bis(2-Chloroethoxy)methane | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| bis(2-Chloroethyl)ether | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| bis(2-Ethylhexyl)phthalate | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| n-Nitroso-di-n-propylamine | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| n-Nitrosodiphenylamine | 400 U | 430 U | 430 U | 460 U | 400 U | 360 U | 400 U | 400 U | 360 U |
| | | | | | | | | | |
| **Total Metals (MG/KG)** | | | | | | | | | |
| Arsenic | 2.5 | 2.1 | 2.1 | 1.3 | 6.6 | 2.2 | 1.7 | 5.7 | 1.3 |
| Barium | 22.6 | 24.1 | 20.5 J | 33 | 16.5 J | 12.9 J | 14.2 J | 34.3 | 12.4 J |
| Cadmium | 0.03 U | 0.03 U | 0.04 U | 0.04 U | 0.03 U | 0.03 U | 0.03 U | 0.03 U | 0.03 U |
| Chromium | 21.6 K | 20 K | 18.1 K | 20.9 K | 19.7 K | 5.7 K | 7.4 K | 22 K | 7.4 K |
| Lead | 9.6 J | 8.5 | 7.7 | 11.3 | 7.7 | 4.2 | 4.8 | 6.7 | 5.1 |
| Mercury | 0.02 J | 0.01 J | 0.02 J | 0.04 J | 0.01 U | 0.01 J | 0.01 J | 0.01 U | 0.01 J |
| Selenium | 0.41 J | 0.4 U | 0.47 U | 0.53 U | 0.45 U | 0.41 U | 0.44 U | 0.35 U | 0.43 U |
| Silver | 0.16 U | 0.12 U | 0.18 U | 0.16 U | 0.18 U | 0.12 U | 0.13 U | 0.1 U | 0.13 U |
| | | | | | | | | | |
| **Wet Chemistry** | | | | | | | | | |
| % Solids | 85 | 79 | 76 | 72 | 81 | 89 | 84 | 80 | 90 |

Notes:
J - Reported result may not be accurate or precise
K - Reported result may be biased high
U - Not Detected
Detects are shaded

**Table C-3**
**Site 1**
**Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID<br>Sample ID<br>Sample Date | OU5-1MW02<br>OU5-1GW02<br>04/17/02 | OU5-1MW03<br>OU5-1GW03<br>04/17/02 | OU5-1MW04<br>OU5-1GW04<br>04/15/02 |
|---|---|---|---|
| **Chemical Name** | | | |
| | | | |
| **Volatile Organic Compounds (UG/L)** | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U |
| Acetone | 5 U | 5 U | 5 U |
| Benzene | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U |
| Chloroethane | 1 U | 1 U | 1 U |
| Chloroform | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U |
| Methylene chloride | 1 U | 1 U | 1 U |
| Styrene | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U |
| Toluene | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U |
| | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | |
| 2,2'-Oxybis(1-chloropropane) | 5 U | 5 U | 5 U |
| 2,4,5-Trichlorophenol | 20 U | 20 UJ | 20 U |
| 2,4,6-Trichlorophenol | 5 U | 5 UJ | 5 U |
| 2,4-Dichlorophenol | 5 U | 5 UJ | 5 U |
| 2,4-Dimethylphenol | 5 U | 5 UJ | 5 U |
| 2,4-Dinitrophenol | 20 U | 20 UJ | 20 U |
| 2,4-Dinitrotoluene | 5 U | 5 U | 5 U |
| 2,6-Dinitrotoluene | 5 U | 5 U | 5 U |
| 2-Chloronaphthalene | 5 U | 5 U | 5 U |
| 2-Chlorophenol | 5 UJ | 5 UJ | 5 UJ |
| 2-Methylnaphthalene | 5 U | 5 U | 5 U |
| 2-Methylphenol | 5 U | 5 UJ | 5 U |
| 2-Nitroaniline | 20 U | 20 U | 20 U |
| 2-Nitrophenol | 5 U | 5 UJ | 5 U |
| 3,3'-Dichlorobenzidine | 5 U | 5 U | 5 U |
| 3-Nitroaniline | 20 U | 20 U | 20 U |
| 4,6-Dinitro-2-methylphenol | 20 U | 20 UJ | 20 U |

**Table C-3**
**Site 1**
**Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| **Station ID**<br>**Sample ID**<br>**Sample Date** | OU5-1MW02<br>OU5-1GW02<br>04/17/02 | OU5-1MW03<br>OU5-1GW03<br>04/17/02 | OU5-1MW04<br>OU5-1GW04<br>04/15/02 |
|---|---|---|---|
| **Chemical Name** | | | |
| 4-Bromophenyl-phenylether | 5 U | 5 U | 5 U |
| 4-Chloro-3-methylphenol | 5 U | 5 UJ | 5 U |
| 4-Chloroaniline | 5 U | 5 U | 5 U |
| 4-Chlorophenyl-phenylether | 5 U | 5 U | 5 U |
| 4-Methylphenol | 5 U | 5 UJ | 5 U |
| 4-Nitroaniline | 20 U | 20 U | 20 U |
| 4-Nitrophenol | 20 U | 20 UJ | 20 U |
| Acenaphthene | 5 U | 5 U | 5 U |
| Acenaphthylene | 5 U | 5 U | 5 U |
| Anthracene | 5 U | 5 U | 5 U |
| Benzo(a)anthracene | 5 U | 5 U | 5 U |
| Benzo(a)pyrene | 5 U | 5 U | 5 U |
| Benzo(b)fluoranthene | 5 U | 5 U | 5 U |
| Benzo(g,h,i)perylene | 5 U | 5 U | 5 U |
| Benzo(k)fluoranthene | 5 U | 5 U | 5 U |
| Butylbenzylphthalate | 5 U | 5 U | 5 U |
| Chrysene | 5 U | 5 U | 5 U |
| Di-n-butylphthalate | 5 U | 5 U | 5 U |
| Di-n-octylphthalate | 5 U | 5 U | 5 U |
| Dibenz(a,h)anthracene | 5 U | 5 U | 5 U |
| Dibenzofuran | 5 U | 5 U | 5 U |
| Diethylphthalate | 5 U | 5 U | 5 U |
| Dimethyl phthalate | 5 U | 5 U | 5 U |
| Fluoranthene | 5 U | 5 U | 5 U |
| Fluorene | 5 U | 5 U | 5 U |
| Hexachlorobenzene | 5 U | 5 U | 5 U |
| Hexachlorobutadiene | 5 UJ | 5 UJ | 5 UJ |
| Hexachlorocyclopentadiene | 5 UJ | 5 UJ | 5 UJ |
| Hexachloroethane | 5 U | 5 U | 5 U |
| Indeno(1,2,3-cd)pyrene | 5 U | 5 U | 5 U |
| Isophorone | 5 U | 5 U | 5 U |
| Naphthalene | 5 U | 5 U | 5 U |
| Nitrobenzene | 5 U | 5 U | 5 U |
| Pentachlorophenol | 5 U | 5 UJ | 5 U |
| Phenanthrene | 5 U | 5 U | 5 U |
| Phenol | 5 UJ | 5 UJ | 5 UJ |
| Pyrene | 5 U | 5 U | 5 U |
| bis(2-Chloroethoxy)methane | 5 U | 5 U | 5 U |
| bis(2-Chloroethyl)ether | 5 U | 5 U | 5 U |
| bis(2-Ethylhexyl)phthalate | 5 U | 5 U | 5 U |
| n-Nitroso-di-n-propylamine | 5 U | 5 U | 5 U |
| n-Nitrosodiphenylamine | 5 U | 5 U | 5 U |
| | | | |
| **Total Metals (UG/L)** | | | |
| Arsenic | 2.08 U | 5.8 J | 3.7 J |
| Barium | 11.8 J | 21 J | 37.3 J |
| Cadmium | 0.32 U | 0.32 U | 0.32 U |
| Chromium | 0.85 U | 0.85 U | 0.85 U |
| Lead | 2.18 U | 2.18 U | 2.18 U |
| Mercury | 0.04 U | 0.04 U | 0.05 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U |
| Silver | 1.3 U | 1.3 U | 1.3 U |

Notes:

J - Reported result may not be accurate or precise

U - Not detected

Detects are shaded

**Table C-4**
**Site 1**
**Temporary Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-TW01 | OU5-S1-TW02 | OU5-S1-TW03 | OU5-S1-TW04 | OU5-S1-TW05 | OU5-S1-TW06 | OU5-S1-TW07 | OU5-S1-TW08 | OU5-S1-TW09 | | OU5-S1-TW10 | OU5-S1-TW11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-TW01 | OU5-S1-TW02 | OU5-S1-TW03 | OU5-S1-TW04 | OU5-S1-TW05 | OU5-S1-TW06 | OU5-S1-TW07 | OU5-S1-TW08 | OU5-S1-TW09 | OU5-S1-TW09-P | OU5-S1-TW10 | OU5-S1-TW11 |
| Sample Date | 04/26/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 |
| **Chemical Name** | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Volatile Organic Compounds (UG/L)** | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 2 | 2 | 1 U | 1 U | 1 U | 1 U | 1 U | 2 |
| 1,1-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U |
| Acetone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 | 1 | 1 U | 0.9 U |
| Chloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Methylene chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Styrene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Toluene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| | | | | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-Trichlorophenol | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |

**Table C-4**
**Site 1**
**Temporary Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-TW01 | OU5-S1-TW02 | OU5-S1-TW03 | OU5-S1-TW04 | OU5-S1-TW05 | OU5-S1-TW06 | OU5-S1-TW07 | OU5-S1-TW08 | OU5-S1-TW09 | | OU5-S1-TW10 | OU5-S1-TW11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-TW01 | OU5-S1-TW02 | OU5-S1-TW03 | OU5-S1-TW04 | OU5-S1-TW05 | OU5-S1-TW06 | OU5-S1-TW07 | OU5-S1-TW08 | OU5-S1-TW09 | OU5-S1-TW09-P | OU5-S1-TW10 | OU5-S1-TW11 |
| Sample Date | 04/26/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 |
| **Chemical Name** | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dichlorophenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dimethylphenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dinitrophenol | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-Dinitrotoluene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-Dinitrotoluene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Chloronaphthalene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Chlorophenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Methylnaphthalene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Methylphenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Nitroaniline | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-Nitrophenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-Nitroaniline | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4,6-Dinitro-2-methylphenol | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-Bromophenyl-phenylether | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chloro-3-methylphenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chloroaniline | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chlorophenyl-phenylether | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Methylphenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Nitroaniline | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-Nitrophenol | 22 U | 22 U | 20 U | 22 U | 22 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| Acenaphthene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Acenaphthylene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Anthracene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)anthracene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)pyrene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(b)fluoranthene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(g,h,i)perylene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(k)fluoranthene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Butylbenzylphthalate | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chrysene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Di-n-butylphthalate | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Di-n-octylphthalate | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibenz(a,h)anthracene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibenzofuran | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Diethylphthalate | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dimethyl phthalate | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Fluoranthene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Fluorene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobenzene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobutadiene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorocyclopentadiene | 6 U | 6 UJ | 5 UJ | 6 UJ | 6 UJ | 5 UJ | 5 U | 5 U | 5 UJ | 5 UJ | 5 UJ | 5 UJ |
| Hexachloroethane | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Indeno(1,2,3-cd)pyrene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Isophorone | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

**Table C-4**
**Site 1**
**Temporary Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-TW01 | OU5-S1-TW02 | OU5-S1-TW03 | OU5-S1-TW04 | OU5-S1-TW05 | OU5-S1-TW06 | OU5-S1-TW07 | OU5-S1-TW08 | OU5-S1-TW09 | | OU5-S1-TW10 | OU5-S1-TW11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-TW01 | OU5-S1-TW02 | OU5-S1-TW03 | OU5-S1-TW04 | OU5-S1-TW05 | OU5-S1-TW06 | OU5-S1-TW07 | OU5-S1-TW08 | OU5-S1-TW09 | OU5-S1-TW09-P | OU5-S1-TW10 | OU5-S1-TW11 |
| Sample Date | 04/26/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 | 04/25/02 |
| **Chemical Name** | | | | | | | | | | | | |
| Naphthalene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Nitrobenzene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Pentachlorophenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Phenanthrene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Phenol | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Pyrene | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethoxy)methane | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethyl)ether | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Ethylhexyl)phthalate | 6 U | 6 U | 5 U | 62 U | 6 U | 5 U | 5 U | 5 U | 6 U | 5 U | 7 U | 5 U |
| n-Nitroso-di-n-propylamine | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| n-Nitrosodiphenylamine | 6 U | 6 U | 5 U | 6 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| | | | | | | | | | | | | |
| **Total Metals (UG/L)** | | | | | | | | | | | | |
| Arsenic | 2.08 U | 5.8 J | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 9.4 J | 2.08 U |
| Barium | 49.1 J | 46.4 J | 85.1 J | 2.1 J | 70.5 J | 8.6 J | 66.3 J | 21.9 J | 19.5 J | 19.9 J | 42.6 J | 10.2 J |
| Cadmium | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U |
| Chromium | 0.85 U | 6.2 J | 0.85 U | 0.85 U | 2.8 J | 0.85 U | 0.85 U | 1.5 J | 0.85 U | 0.85 U | 2 J | 0.85 U |
| Lead | 2.18 U | 3.6 | 2.18 U | 2.18 U | 2.6 J | 2.18 U | 2.18 U | 3.2 | 2.4 J | 2.18 U | 3.3 | 2.18 U |
| Mercury | 0.75 | 0.04 U | 0.02 U | 0.03 U | 0.02 U | 0.02 U | 0.04 U | 0.02 U | 0.02 U | 0.02 U | 0.05 U | 0.01 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U |
| Silver | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U |
| | | | | | | | | | | | | |
| **Dissolved Metals (UG/L)** | | | | | | | | | | | | |
| Arsenic | NA | NA | NA | NA | NA | NA | 2.08 U | NA | NA | NA | 9.8 J | NA |
| Barium | NA | NA | NA | NA | NA | NA | 65.4 J | NA | NA | NA | 42.7 J | NA |
| Cadmium | NA | NA | NA | NA | NA | NA | 0.32 U | NA | NA | NA | 0.32 U | NA |
| Chromium | NA | NA | NA | NA | NA | NA | 0.85 U | NA | NA | NA | 0.85 U | NA |
| Lead | NA | NA | NA | NA | NA | NA | 2.18 U | NA | NA | NA | 2.18 U | NA |
| Mercury | NA | NA | NA | NA | NA | NA | 0.04 U | NA | NA | NA | 0.04 U | NA |
| Selenium | NA | NA | NA | NA | NA | NA | 4.33 U | NA | NA | NA | 4.33 U | NA |
| Silver | NA | NA | NA | NA | NA | NA | 1.3 U | NA | NA | NA | 1.3 U | NA |

Notes:
J - Reported result may not be accurate or precise.
U - Not Detected
NA - Not analyzed.
Detects are shaded

**Table C-5**
**Site 1**
**Surface Water Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID<br>Sample ID<br>Sample Date | OU5-S1-SW02<br>OU5-S1-SW02<br>04/24/02 | OU5-S1-SW03<br>OU5-S1-SW03<br>04/24/02 | OU5-S1-SW04<br>OU5-S1-SW04<br>04/26/02 | OU5-S1-SW05<br>OU5-S1-SW05<br>04/24/02 | OU5-S1-SW06<br>OU5-S1-SW06<br>04/24/02 | OU5-S1-SW07<br>OU5-S1-SW07<br>04/24/02 | OU5-S1-SW08<br>OU5-S1-SW08<br>04/24/02 |
|---|---|---|---|---|---|---|---|
| **Chemical Name** | | | | | | | |
| | | | | | | | |
| **Volatile Organic Compounds (UG/L)** | | | | | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U |
| Acetone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroethane | 1 UJ | 1 UJ | 1 U | 1 UJ | 1 UJ | 1 UJ | 1 UJ |
| Chloroform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Methylene chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Styrene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Toluene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| | | | | | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |

**Table C-5**
**Site 1**
**Surface Water Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID<br>Sample ID<br>Sample Date | OU5-S1-SW02<br>OU5-S1-SW02<br>04/24/02 | OU5-S1-SW03<br>OU5-S1-SW03<br>04/24/02 | OU5-S1-SW04<br>OU5-S1-SW04<br>04/26/02 | OU5-S1-SW05<br>OU5-S1-SW05<br>04/24/02 | OU5-S1-SW06<br>OU5-S1-SW06<br>04/24/02 | OU5-S1-SW07<br>OU5-S1-SW07<br>04/24/02 | OU5-S1-SW08<br>OU5-S1-SW08<br>04/24/02 |
|---|---|---|---|---|---|---|---|
| **Chemical Name** | | | | | | | |
| 2,4,5-Trichlorophenol | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| 2,4,6-Trichlorophenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2,4-Dichlorophenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2,4-Dimethylphenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2,4-Dinitrophenol | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| 2,4-Dinitrotoluene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2,6-Dinitrotoluene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2-Chloronaphthalene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2-Chlorophenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2-Methylnaphthalene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2-Methylphenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 2-Nitroaniline | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| 2-Nitrophenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 3,3'-Dichlorobenzidine | 5 U | 5 U | 6 U | 5 R | 5 U | 5 U | 5 UJ |
| 3-Nitroaniline | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| 4,6-Dinitro-2-methylphenol | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| 4-Bromophenyl-phenylether | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 4-Chloro-3-methylphenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 4-Chloroaniline | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 4-Chlorophenyl-phenylether | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 4-Methylphenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| 4-Nitroaniline | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| 4-Nitrophenol | 20 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 UJ |
| Acenaphthene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Acenaphthylene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Anthracene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Benzo(a)anthracene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Benzo(a)pyrene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Benzo(b)fluoranthene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Benzo(g,h,i)perylene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Benzo(k)fluoranthene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Butylbenzylphthalate | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Chrysene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Di-n-butylphthalate | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Di-n-octylphthalate | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Dibenz(a,h)anthracene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Dibenzofuran | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Diethylphthalate | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Dimethyl phthalate | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Fluoranthene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Fluorene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Hexachlorobenzene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Hexachlorobutadiene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |

## Table C-5
## Site 1
## Surface Water Analytical Results
## OU5 Remedial Investigation
## MCAS Cherry Point

| Station ID<br>Sample ID<br>Sample Date | OU5-S1-SW02<br>OU5-S1-SW02<br>04/24/02 | OU5-S1-SW03<br>OU5-S1-SW03<br>04/24/02 | OU5-S1-SW04<br>OU5-S1-SW04<br>04/26/02 | OU5-S1-SW05<br>OU5-S1-SW05<br>04/24/02 | OU5-S1-SW06<br>OU5-S1-SW06<br>04/24/02 | OU5-S1-SW07<br>OU5-S1-SW07<br>04/24/02 | OU5-S1-SW08<br>OU5-S1-SW08<br>04/24/02 |
|---|---|---|---|---|---|---|---|
| **Chemical Name** | | | | | | | |
| Hexachlorocyclopentadiene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 UJ |
| Hexachloroethane | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Indeno(1,2,3-cd)pyrene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Isophorone | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Naphthalene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Nitrobenzene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Pentachlorophenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Phenanthrene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Phenol | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| Pyrene | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| bis(2-Chloroethoxy)methane | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| bis(2-Chloroethyl)ether | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| bis(2-Ethylhexyl)phthalate | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| n-Nitroso-di-n-propylamine | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| n-Nitrosodiphenylamine | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 UJ |
| | | | | | | | |
| **Total Metals (UG/L)** | | | | | | | |
| Arsenic | 2.5 J | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 10.4 U |
| Barium | 32.3 J | 12.2 J | 42.9 J | 38.5 J | 40.9 J | 39.8 J | 40.6 J |
| Cadmium | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 1.6 U |
| Chromium | 1.1 J | 1.3 J | 1.1 U | 0.96 J | 1.2 J | 1.2 J | 4.25 U |
| Lead | 3.4 | 2.18 U | 2.8 J | 2.18 U | 2.18 U | 3.4 | 10.9 U |
| Mercury | 0.05 U | 0.07 U | 0.04 U | 0.03 U | 0.04 U | 0.02 U | 0.03 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 21.7 U |
| Silver | 1.3 U | 1.3 U | 1.3 U | 2.4 J | 2 J | 1.3 U | 6.5 U |
| | | | | | | | |
| **Dissolved Metals (UG/L)** | | | | | | | |
| Arsenic | 2.08 U | 2.08 U | 2.08 U | 10.4 U | 10.4 U | 10.4 U | 10.4 U |
| Barium | 10.4 U | 10.4 J | 44.8 J | 38.2 J | 41.7 J | 42.1 J | 40 J |
| Cadmium | 0.41 U | 0.32 U | 0.32 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U |
| Chromium | 1.2 U | 0.85 U | 0.85 U | 4.25 U | 4.25 U | 4.25 U | 4.25 U |
| Lead | 2.18 U | 2.8 J | 3 J | 10.9 U | 10.9 U | 10.9 U | 10.9 U |
| Mercury | 0.09 U | 0.03 U | 0.01 U | 0.01 U | 0.05 U | 0.03 U | 0.05 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 21.7 U | 21.7 U | 21.7 U | 21.7 U |
| Silver | 1.3 U | 1.3 U | 1.3 U | 6.5 U | 6.5 U | 6.5 U | 6.5 U |
| | | | | | | | |
| **Wet Chemistry (MG/L)** | | | | | | | |
| Dissolved organic carbon | 4 | 24 | 8.6 | 9 | 9.5 | 9.2 | 3 |
| Hardness | 87 | 71 | 510 | 2,200 | 1,300 | 1,200 | 1,700 |
| Total organic carbon (TOC) | 26 | 26 | 9.3 | 8.2 | 2 | 1 | 8.3 |

Notes:

J - Reported result may not be accurate or precise

U - Not detected

NA - Not analyzed

Detects are shaded

**Table C-6**
**Site 1**
**Sediment Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SD01 | OU5-S1-SD02 | OU5-S1-SD03 | | OU5-S1-SD04 | OU5-S1-SD05 | OU5-S1-SD06 | OU5-S1-SD07 | OU5-S1-SD08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SD01-00 | OU5-S1-SD02-00 | OU5-S1-SD03-00 | OU5-S1-SD03-P-00 | OU5-S1-SD04-00 | OU5-S1-SD05-00 | OU5-S1-SD06-00 | OU5-S1-SD07-00 | OU5-S1-SD08-00 |
| Sample Date | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 |
| **Chemical Name** | | | | | | | | | |
| | | | | | | | | | |
| **Volatile Organic Compounds (UG/KG)** | | | | | | | | | |
| 1,1,1-Trichloroethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,1,2,2-Tetrachloroethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,1,2-Trichloroethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,1-Dichloroethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,1-Dichloroethene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,2,4-Trichlorobenzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,2-Dibromo-3-chloropropane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,2-Dibromoethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,2-Dichlorobenzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,2-Dichloroethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,2-Dichloropropane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,3-Dichlorobenzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 1,4-Dichlorobenzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 2-Butanone | 21 UJ | 7 U | 14 UJ | 9 UJ | 72 J | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 2-Hexanone | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| 4-Methyl-2-pentanone | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Acetone | 54 UJ | 13 U | 42 UJ | 36 UJ | 220 UJ | 110 UJ | 100 UJ | 44 UJ | 51 UJ |
| Benzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Bromodichloromethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Bromoform | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Bromomethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Carbon disulfide | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 18 J |
| Carbon tetrachloride | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Chlorobenzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Chloroethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Chloroform | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Chloromethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Cumene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Cyclohexane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Dibromochloromethane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Dichlorodifluoromethane(Freon-12) | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Ethylbenzene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Methyl acetate | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Methyl-tert-butyl ether (MTBE) | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Methylcyclohexane | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Methylene chloride | 36 UJ | 11 U | 25 UJ | 23 UJ | 80 UJ | 100 UJ | 120 UJ | 23 UJ | 29 UJ |
| Styrene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Tetrachloroethene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Toluene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Trichloroethene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Trichlorofluoromethane(Freon-11) | 12 J | 4 J | 16 J | 7 J | 70 J | 76 J | 35 J | 38 J | 23 UJ |
| Vinyl chloride | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| Xylene, total | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |

Table C-6
Site 1
Sediment Analytical Results
OU5 Remedial Investigation
MCAS Cherry Point

| Station ID | OU5-S1-SD01 | OU5-S1-SD02 | OU5-S1-SD03 | | OU5-S1-SD04 | OU5-S1-SD05 | OU5-S1-SD06 | OU5-S1-SD07 | OU5-S1-SD08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SD01-00 | OU5-S1-SD02-00 | OU5-S1-SD03-00 | OU5-S1-SD03-P-00 | OU5-S1-SD04-00 | OU5-S1-SD05-00 | OU5-S1-SD06-00 | OU5-S1-SD07-00 | OU5-S1-SD08-00 |
| Sample Date | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 |
| **Chemical Name** | | | | | | | | | |
| cis-1,2-Dichloroethene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| cis-1,3-Dichloropropene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| trans-1,2-Dichloroethene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| trans-1,3-Dichloropropene | 21 UJ | 7 U | 14 UJ | 9 UJ | 50 UJ | 60 UJ | 65 UJ | 13 UJ | 23 UJ |
| | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/KG)** | | | | | | | | | |
| 1,1-Biphenyl | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2,2'-Oxybis(1-chloropropane) | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2,4,5-Trichlorophenol | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| 2,4,6-Trichlorophenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2,4-Dichlorophenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2,4-Dimethylphenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2,4-Dinitrophenol | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| 2,4-Dinitrotoluene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2,6-Dinitrotoluene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2-Chloronaphthalene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2-Chlorophenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2-Methylnaphthalene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2-Methylphenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 2-Nitroaniline | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| 2-Nitrophenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 3,3'-Dichlorobenzidine | 860 U | 460 U | 590 U | 560 U | 2,300 UJ | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 3-Nitroaniline | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| 4,6-Dinitro-2-methylphenol | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| 4-Bromophenyl-phenylether | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 4-Chloro-3-methylphenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 4-Chloroaniline | 860 U | 460 U | 590 U | 560 U | 2,300 UJ | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 4-Chlorophenyl-phenylether | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 4-Methylphenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| 4-Nitroaniline | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| 4-Nitrophenol | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 UJ | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| Acenaphthene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Acenaphthylene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Acetophenone | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Anthracene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Atrazine | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Benzaldehyde | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Benzo(a)anthracene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Benzo(a)pyrene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Benzo(b)fluoranthene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Benzo(g,h,i)perylene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Benzo(k)fluoranthene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Butylbenzylphthalate | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Caprolactam | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |

**Table C-6**
**Site 1**
**Sediment Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S1-SD01 | OU5-S1-SD02 | OU5-S1-SD03 | | OU5-S1-SD04 | OU5-S1-SD05 | OU5-S1-SD06 | OU5-S1-SD07 | OU5-S1-SD08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S1-SD01-00 | OU5-S1-SD02-00 | OU5-S1-SD03-00 | OU5-S1-SD03-P-00 | OU5-S1-SD04-00 | OU5-S1-SD05-00 | OU5-S1-SD06-00 | OU5-S1-SD07-00 | OU5-S1-SD08-00 |
| Sample Date | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 |
| **Chemical Name** | | | | | | | | | |
| Carbazole | 860 UJ | 460 UJ | 590 UJ | 560 UJ | 2,300 UJ | 2,200 UJ | 2,600 UJ | 730 UJ | 1,000 UJ |
| Chrysene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Di-n-butylphthalate | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Di-n-octylphthalate | 790 J | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Dibenz(a,h)anthracene | 660 J | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Dibenzofuran | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Diethylphthalate | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Dimethyl phthalate | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Fluoranthene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Fluorene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Hexachlorobenzene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Hexachlorobutadiene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Hexachlorocyclopentadiene | 860 U | 460 U | 590 U | 560 U | 2,300 UJ | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Hexachloroethane | 860 U | 460 U | 590 U | 560 U | 2,300 UJ | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Indeno(1,2,3-cd)pyrene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Isophorone | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Naphthalene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Nitrobenzene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Pentachlorophenol | 2,200 U | 1,200 U | 1,500 U | 1,400 U | 5,900 U | 5,600 U | 6,500 U | 1,800 U | 2,600 U |
| Phenanthrene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Phenol | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| Pyrene | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| bis(2-Chloroethoxy)methane | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| bis(2-Chloroethyl)ether | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| bis(2-Ethylhexyl)phthalate | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| n-Nitroso-di-n-propylamine | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| n-Nitrosodiphenylamine | 860 U | 460 U | 590 U | 560 U | 2,300 U | 2,200 U | 2,600 U | 730 U | 1,000 U |
| | | | | | | | | | |
| **Total Metals (MG/KG)** | | | | | | | | | |
| Arsenic | 1.7 J | 5.3 | 1.4 J | 2 | 2.1 J | 3.8 J | 9.9 | 1.9 | 2.5 |
| Barium | 66.7 | 31.9 | 12.1 J | 17.4 J | 47.7 J | 39.8 J | 21.9 J | 6.5 J | 19.2 J |
| Cadmium | 0.12 J | 0.13 J | 0.06 J | 0.05 J | 0.27 J | 1.3 J | 0.38 J | 0.07 J | 0.85 J |
| Chromium | 11.7 J | 27.8 J | 6.3 J | 12.3 J | 13.1 J | 27.4 J | 11.3 J | 5.9 J | 20.6 J |
| Lead | 11.2 | 15.3 | 7 | 9.4 | 10.5 | 46.4 | 12.2 | 6.7 | 28.3 |
| Mercury | 0.07 J | 0.02 J | 0.03 J | 0.04 J | 0.11 J | 0.39 | 0.07 J | 0.02 J | 0.19 |
| Selenium | 1.1 J | 0.52 | 0.67 | 0.57 | 2.26 | 2.13 | 2.74 | 0.67 | 0.96 |
| Silver | 0.28 | 0.16 | 0.2 | 0.17 | 0.68 | 0.58 J | 0.82 | 0.2 | 0.29 |
| | | | | | | | | | |
| **Wet Chemistry** | | | | | | | | | |
| % Solids | 38 | 69 | 55 | 59 | 14 | 15 | 13 | 45 | 32 |
| Total organic carbon (TOC) (MG/KG) | 79,700 | 9,870 | 27,800 | 32,000 | 305,000 | 180,000 | 351,000 | 10,200 | 69,500 |
| pH | 6 | 5 | 6.6 | 5.9 | 6.4 | 7 | 6.5 | 6.8 | 6.7 |

Notes:

J - Reported result may not be accurate or precise

U - Not detected

Detects are shaded

**Table C-7**
**Site 2**
**Surface Soil Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SO01 | OU5-S2-SO02 | OU5-S2-SO03 | OU5-S2-SO04 | | OU5-S2-SO05 | OU5-S2-SO06 | OU5-S2-SO07 | OU5-S2-SO08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SS01-01 | OU5-S2-SS02-01 | OU5-S2-SS03-01 | OU5-S2-SS04-01 | OU5-S2-SS04-P-01 | OU5-S2-SS05-01 | OU5-S2-SS06-01 | OU5-S2-SS07-01 | OU5-S2-SS08-01 |
| Sample Date | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/18/02 | 04/22/02 | 04/22/02 | 04/22/02 |
| **Chemical Name** | | | | | | | | | |
| | | | | | | | | | |
| **Volatile Organic Compounds (UG/KG)** | | | | | | | | | |
| 1,1,1-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,1,2,2-Tetrachloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,1,2-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,2,4-Trichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| 1,2-Dibromo-3-chloropropane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| 1,2-Dibromoethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,2-Dichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| 1,2-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,2-Dichloropropane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 1,3-Dichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| 1,4-Dichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 10 U | 5 U |
| 2-Hexanone | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| 4-Methyl-2-pentanone | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Acetone | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 11 U | 5 U |
| Benzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Bromodichloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Bromoform | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Bromomethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Carbon disulfide | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Chloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Chloroform | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Chloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Cumene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 UJ |
| Cyclohexane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Dibromochloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Dichlorodifluoromethane(Freon-12) | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Ethylbenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Methyl acetate | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Methyl-tert-butyl ether (MTBE) | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Methylcyclohexane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Methylene chloride | 6 U | 6 U | 6 U | 9 U | 7 U | 6 U | 5 U | 8 U | 5 U |
| Styrene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Tetrachloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Toluene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Trichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Trichlorofluoromethane(Freon-11) | 3 J | 4 J | 5 U | 5 U | 5 U | 24 | 5 | 5 J | 6 |
| Vinyl chloride | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| cis-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| trans-1,2-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |

**Table C-7**
**Site 2**
**Surface Soil Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SO01 | OU5-S2-SO02 | OU5-S2-SO03 | OU5-S2-SO04 | | OU5-S2-SO05 | OU5-S2-SO06 | OU5-S2-SO07 | OU5-S2-SO08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SS01-01 | OU5-S2-SS02-01 | OU5-S2-SS03-01 | OU5-S2-SS04-01 | OU5-S2-SS04-P-01 | OU5-S2-SS05-01 | OU5-S2-SS06-01 | OU5-S2-SS07-01 | OU5-S2-SS08-01 |
| Sample Date | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/18/02 | 04/22/02 | 04/22/02 | 04/22/02 |
| **Chemical Name** | | | | | | | | | |
| trans-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U |
| | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/KG)** | | | | | | | | | |
| 1,1-Biphenyl | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2,2'-Oxybis(1-chloropropane) | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2,4,5-Trichlorophenol | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| 2,4,6-Trichlorophenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2,4-Dichlorophenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2,4-Dimethylphenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2,4-Dinitrophenol | 1,100 U | 910 U | 910 U | 910 U | 910 UJ | 910 U | 910 U | 910 U | 1,000 U |
| 2,4-Dinitrotoluene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2,6-Dinitrotoluene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2-Chloronaphthalene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2-Chlorophenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2-Methylnaphthalene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2-Methylphenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 2-Nitroaniline | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| 2-Nitrophenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 3,3'-Dichlorobenzidine | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 3-Nitroaniline | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| 4,6-Dinitro-2-methylphenol | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| 4-Bromophenyl-phenylether | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 4-Chloro-3-methylphenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 4-Chloroaniline | 430 U | 360 U | 360 U | 360 U | 360 UJ | 360 U | 360 U | 360 U | 400 U |
| 4-Chlorophenyl-phenylether | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 4-Methylphenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| 4-Nitroaniline | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| 4-Nitrophenol | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| Acenaphthene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Acenaphthylene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Acetophenone | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Anthracene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Atrazine | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Benzaldehyde | 430 U | 360 U | 360 U | 360 U | 360 U | 280 J | 360 U | 360 U | 400 UJ |
| Benzo(a)anthracene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Benzo(a)pyrene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Benzo(b)fluoranthene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Benzo(g,h,i)perylene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Benzo(k)fluoranthene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Butylbenzylphthalate | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Caprolactam | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |

**Table C-7**
**Site 2**
**Surface Soil Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SO01 | OU5-S2-SO02 | OU5-S2-SO03 | OU5-S2-SO04 | | OU5-S2-SO05 | OU5-S2-SO06 | OU5-S2-SO07 | OU5-S2-SO08 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SS01-01 | OU5-S2-SS02-01 | OU5-S2-SS03-01 | OU5-S2-SS04-01 | OU5-S2-SS04-P-01 | OU5-S2-SS05-01 | OU5-S2-SS06-01 | OU5-S2-SS07-01 | OU5-S2-SS08-01 |
| Sample Date | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/18/02 | 04/22/02 | 04/22/02 | 04/22/02 |
| **Chemical Name** | | | | | | | | | |
| Carbazole | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Chrysene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Di-n-butylphthalate | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Di-n-octylphthalate | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Dibenz(a,h)anthracene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Dibenzofuran | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Diethylphthalate | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Dimethyl phthalate | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Fluoranthene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Fluorene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Hexachlorobenzene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Hexachlorobutadiene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Hexachlorocyclopentadiene | 430 U | 360 U | 360 U | 360 U | 360 UJ | 360 UJ | 360 U | 360 U | 400 U |
| Hexachloroethane | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Indeno(1,2,3-cd)pyrene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Isophorone | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Naphthalene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Nitrobenzene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Pentachlorophenol | 1,100 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 910 U | 1,000 U |
| Phenanthrene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Phenol | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| Pyrene | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| bis(2-Chloroethoxy)methane | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| bis(2-Chloroethyl)ether | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| bis(2-Ethylhexyl)phthalate | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| n-Nitroso-di-n-propylamine | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| n-Nitrosodiphenylamine | 430 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 360 U | 400 U |
| | | | | | | | | | |
| **Total Metals (MG/KG)** | | | | | | | | | |
| Arsenic | 2.8 | 12.5 | 1.1 | 1.9 | 2.2 | 2.5 | 2.6 | 1 | 3 |
| Barium | 11.8 J | 18.3 J | 9.1 J | 11.9 J | 10.7 J | 105 | 17.7 J | 12 J | 16.5 J |
| Cadmium | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 U | 0.7 | 0.21 J | 0.03 | 0.04 |
| Chromium | 9 | 10.8 | 4.5 | 9.9 | 9 K | 12.5 K | 10.9 | 10.9 | 12.6 |
| Lead | 7.6 | 14.2 | 3.8 | 8.3 | 6.7 | 33.5 | 17.9 | 7.4 | 31.2 |
| Mercury | 0.02 J | 0.14 | 0.02 J | 0.02 J | 0.02 J | 0.16 | 0.04 | 0.03 J | 0.03 J |
| Selenium | 0.49 U | 0.41 U | 0.46 J | 0.39 U | 0.38 U | 0.38 U | 0.41 U | 0.41 U | 0.5 U |
| Silver | 0.15 U | 0.12 U | 0.12 U | 0.12 U | 0.11 U | 0.19 U | 0.12 U | 0.12 U | 0.15 U |
| | | | | | | | | | |
| **Wet Chemistry** | | | | | | | | | |
| % Solids | 75 | 88 | 93 | 91 | 91 | 87 | 91 | 89 | 80 |
| Total organic carbon (TOC) (MG/KG) | NA | NA | 6,020 | 7,870 | 6,900 | 26,500 | NA | NA | 15700 |
| pH | NA | NA | 5.5 | 5.9 | 5.7 | 5.9 | NA | NA | 6 |

Notes:
J - Reported result may not be accurate or precise
K - Reported result may be biased high
U - Not detected
NA - Not Analyzed
Detects are shaded

**Table C-8**
**Site 2**
**Subsurface Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID<br>Sample ID<br>Sample Date | OU5-S2-SO01<br>OU5-S2-SB01-04<br>04/18/02 | OU5-S2-SO02<br>OU5-S2-SB02-04<br>04/18/02 | OU5-S2-SO03<br>OU5-S2-SB03-04<br>04/18/02 | OU5-S2-SO04<br>OU5-S2-SB04-04<br>04/18/02 | OU5-S2-SO05<br>OU5-S2-SB05-04<br>04/22/02 | OU5-S2-SO06<br>OU5-S2-SB06-04<br>04/18/02 | OU5-S2-SO07<br>OU5-S2-SB07-04<br>04/18/02 | OU5-S2-SO08<br>OU5-S2-SB08-04<br>04/18/02 |
|---|---|---|---|---|---|---|---|---|
| **Chemical Name** | | | | | | | | |
| | | | | | | | | |
| **Volatile Organic Compounds (UG/KG)** | | | | | | | | |
| 1,1,1-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,1,2,2-Tetrachloroethane | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,1,2-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,1-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,1-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,2,4-Trichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 1,2-Dibromo-3-chloropropane | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 1,2-Dibromoethane | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 1,2-Dichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 1,2-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,2-Dichloropropane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| 1,3-Dichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 1,4-Dichlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 2-Hexanone | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| 4-Methyl-2-pentanone | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Acetone | 10 U | 12 J | 5 U | 5 U | 5 UJ | 3 J | 6 UJ | 6 U |
| Benzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Bromodichloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Bromoform | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Bromomethane | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Carbon disulfide | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Carbon tetrachloride | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Chlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Chloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Chloroform | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Chloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Cumene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Cyclohexane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Dibromochloromethane | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Dichlorodifluoromethane(Freon-12) | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Ethylbenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Methyl acetate | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| Methyl-tert-butyl ether (MTBE) | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Methylcyclohexane | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Methylene chloride | 5 U | 5 U | 11 U | 5 U | 9 UJ | 6 UJ | 6 UJ | 6 U |
| Styrene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 5 J | 6 UJ | 6 U |
| Tetrachloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Toluene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Trichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| Trichlorofluoromethane(Freon-11) | 20 J | 32 | 10 | 56 | 13 | 90 | 26 J | 32 |
| Vinyl chloride | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |

**Table C-8**
**Site 2**
**Subsurface Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID<br>Sample ID<br>Sample Date | OU5-S2-SO01<br>OU5-S2-SB01-04<br>04/18/02 | OU5-S2-SO02<br>OU5-S2-SB02-04<br>04/18/02 | OU5-S2-SO03<br>OU5-S2-SB03-04<br>04/18/02 | OU5-S2-SO04<br>OU5-S2-SB04-04<br>04/18/02 | OU5-S2-SO05<br>OU5-S2-SB05-04<br>04/22/02 | OU5-S2-SO06<br>OU5-S2-SB06-04<br>04/18/02 | OU5-S2-SO07<br>OU5-S2-SB07-04<br>04/18/02 | OU5-S2-SO08<br>OU5-S2-SB08-04<br>04/18/02 |
|---|---|---|---|---|---|---|---|---|
| **Chemical Name** | | | | | | | | |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 U | 6 U |
| cis-1,2-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| cis-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| trans-1,2-Dichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 6 UJ | 6 UJ | 6 U |
| trans-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 UJ | 6 UJ | 6 UJ | 6 U |
| | | | | | | | | |
| **Semivolatile Organic Compounds (UG/KG)** | | | | | | | | |
| 1,1-Biphenyl | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2,2'-Oxybis(1-chloropropane) | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2,4,5-Trichlorophenol | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| 2,4,6-Trichlorophenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2,4-Dichlorophenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2,4-Dimethylphenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2,4-Dinitrophenol | 1,000 UJ | 1,000 UJ | 910 UJ | 910 UJ | 910 U | 1,000 UJ | 1,000 U | 1,000 UJ |
| 2,4-Dinitrotoluene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2,6-Dinitrotoluene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2-Chloronaphthalene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2-Chlorophenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2-Methylnaphthalene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2-Methylphenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 2-Nitroaniline | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| 2-Nitrophenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 3,3'-Dichlorobenzidine | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 3-Nitroaniline | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| 4,6-Dinitro-2-methylphenol | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| 4-Bromophenyl-phenylether | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 4-Chloro-3-methylphenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 4-Chloroaniline | 400 UJ | 400 UJ | 360 UJ | 360 UJ | 360 U | 400 UJ | 400 UJ | 400 UJ |
| 4-Chlorophenyl-phenylether | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 4-Methylphenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| 4-Nitroaniline | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| 4-Nitrophenol | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| Acenaphthene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Acenaphthylene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Acetophenone | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Anthracene | 400 U | 400 U | 360 U | 360 U | 360 U | 430 | 400 U | 400 U |
| Atrazine | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Benzaldehyde | 400 UJ | 400 UJ | 360 UJ | 360 UJ | 360 U | 400 U | 400 UJ | 400 UJ |
| Benzo(a)anthracene | 400 U | 400 U | 360 U | 360 U | 360 U | 1,300 | 400 U | 400 U |
| Benzo(a)pyrene | 400 U | 400 U | 360 U | 360 U | 360 U | 930 | 400 U | 400 U |
| Benzo(b)fluoranthene | 400 U | 400 U | 360 U | 360 U | 360 U | 1,500 | 400 U | 400 U |
| Benzo(g,h,i)perylene | 400 U | 400 U | 360 U | 360 U | 360 U | 600 | 400 U | 400 U |
| Benzo(k)fluoranthene | 400 U | 400 U | 360 U | 360 U | 360 U | 410 | 400 U | 400 U |
| Butylbenzylphthalate | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Caprolactam | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |

**Table C-8**
**Site 2**
**Subsurface Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID<br>Sample ID<br>Sample Date | OU5-S2-SO01<br>OU5-S2-SB01-04<br>04/18/02 | OU5-S2-SO02<br>OU5-S2-SB02-04<br>04/18/02 | OU5-S2-SO03<br>OU5-S2-SB03-04<br>04/18/02 | OU5-S2-SO04<br>OU5-S2-SB04-04<br>04/18/02 | OU5-S2-SO05<br>OU5-S2-SB05-04<br>04/22/02 | OU5-S2-SO06<br>OU5-S2-SB06-04<br>04/18/02 | OU5-S2-SO07<br>OU5-S2-SB07-04<br>04/18/02 | OU5-S2-SO08<br>OU5-S2-SB08-04<br>04/18/02 |
|---|---|---|---|---|---|---|---|---|
| **Chemical Name** | | | | | | | | |
| Carbazole | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Chrysene | 400 U | 400 U | 360 U | 360 U | 360 U | 1,400 | 400 U | 400 U |
| Di-n-butylphthalate | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Di-n-octylphthalate | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Dibenz(a,h)anthracene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Dibenzofuran | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Diethylphthalate | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Dimethyl phthalate | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Fluoranthene | 400 U | 400 U | 360 U | 360 U | 360 U | 2,700 | 290 J | 400 U |
| Fluorene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Hexachlorobenzene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Hexachlorobutadiene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Hexachlorocyclopentadiene | 400 UJ | 400 UJ | 360 UJ | 360 UJ | 360 U | 400 UJ | 400 UJ | 400 UJ |
| Hexachloroethane | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Indeno(1,2,3-cd)pyrene | 400 U | 400 U | 360 U | 360 U | 360 U | 720 | 400 U | 400 U |
| Isophorone | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Naphthalene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Nitrobenzene | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Pentachlorophenol | 1,000 U | 1,000 U | 910 U | 910 U | 910 U | 1,000 U | 1,000 U | 1,000 U |
| Phenanthrene | 400 U | 400 U | 360 U | 360 U | 360 U | 1,500 | 220 J | 400 U |
| Phenol | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| Pyrene | 400 U | 400 U | 360 U | 360 U | 360 U | 2,000 | 210 J | 400 U |
| bis(2-Chloroethoxy)methane | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| bis(2-Chloroethyl)ether | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| bis(2-Ethylhexyl)phthalate | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| n-Nitroso-di-n-propylamine | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| n-Nitrosodiphenylamine | 400 U | 400 U | 360 U | 360 U | 360 U | 400 U | 400 U | 400 U |
| | | | | | | | | |
| **Total Metals (MG/KG)** | | | | | | | | |
| Arsenic | 1.6 | 3 | 0.28 J | 3.8 | 1.6 | 3 | 3.1 | 2.9 |
| Barium | 6.8 J | 19.8 | 6.8 J | 11.1 J | 33.9 | 19.5 J | 19.7 J | 19.5 J |
| Cadmium | 0.03 U | 0.03 U | 0.03 U | 0.03 U | 0.28 J | 0.04 J | 0.14 J | 0.03 U |
| Chromium | 4.6 K | 13.8 K | 2.7 K | 10.1 K | 10.6 | 11.6 K | 10.8 K | 10.7 K |
| Lead | 5.7 | 7 | 2.2 | 5.4 | 22.2 | 11.6 | 12 | 9 |
| Mercury | 0.01 U | 0.01 J | 0.01 U | 0.01 J | 0.12 | 0.09 | 0.03 J | 0.04 J |
| Selenium | 0.42 U | 0.4 U | 0.39 U | 0.39 U | 0.42 U | 0.45 U | 0.48 U | 0.43 U |
| Silver | 0.13 U | 0.15 U | 0.12 U | 0.12 U | 0.12 U | 0.14 U | 0.21 U | 0.13 U |
| | | | | | | | | |
| **Wet Chemistry** | | | | | | | | |
| % Solids | 84 | 83 | 90 | 87 | 89 | 82 | 82 | 84 |

Notes:

J - Reported result may not be accurate or precise

K - Reported result may be biased high

U - Not Detected

Detects are shaded

**Table C-9**
**Site 2**
**Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-2MW01 | OU5-2MW02 | | OU5-2MW03 |
|---|---|---|---|---|
| Sample ID | OU5-2GW01 | OU5-2GW02 | OU5-2GW02-P | OU5-2GW03 |
| Sample Date | 04/16/02 | 04/15/02 | 04/15/02 | 04/16/02 |
| **Chemical Name** | | | | |
| | | | | |
| **Volatile Organic Compounds (UG/L)** | | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 U | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U | 3 U |
| Acetone | 5 U | 4 J | 3 J | 5 U |
| Benzene | 1 | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U | 1 U |
| Chloroethane | 1 U | 1 U | 1 U | 1 U |
| Chloroform | 1 U | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U | 1 U |
| Methylene chloride | 1 U | 1 U | 1 U | 1 U |
| Styrene | 1 U | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U | 1 U |
| Toluene | 1 U | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U | 1 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U |
| | | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | | |
| 2,2'-Oxybis(1-chloropropane) | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-Trichlorophenol | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-Trichlorophenol | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dichlorophenol | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dimethylphenol | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dinitrophenol | 20 U | 20 U | 20 U | 20 U |
| 2,4-Dinitrotoluene | 5 U | 5 U | 5 U | 5 U |
| 2,6-Dinitrotoluene | 5 U | 5 U | 5 U | 5 U |
| 2-Chloronaphthalene | 5 U | 5 U | 5 U | 5 U |
| 2-Chlorophenol | 5 UJ | 5 UJ | 5 UJ | 5 UJ |
| 2-Methylnaphthalene | 5 U | 5 U | 5 U | 5 U |
| 2-Methylphenol | 5 U | 5 U | 5 U | 5 U |
| 2-Nitroaniline | 20 U | 20 U | 20 U | 20 U |
| 2-Nitrophenol | 5 U | 5 U | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 5 U | 5 U | 5 U | 5 U |
| 3-Nitroaniline | 20 U | 20 U | 20 U | 20 U |
| 4,6-Dinitro-2-methylphenol | 20 U | 20 U | 20 U | 20 U |

**Table C-9**
**Site 2**
**Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-2MW01 | OU5-2MW02 | | OU5-2MW03 |
|---|---|---|---|---|
| Sample ID | OU5-2GW01 | OU5-2GW02 | OU5-2GW02-P | OU5-2GW03 |
| Sample Date | 04/16/02 | 04/15/02 | 04/15/02 | 04/16/02 |
| **Chemical Name** | | | | |
| 4-Bromophenyl-phenylether | 5 U | 5 U | 5 U | 5 U |
| 4-Chloro-3-methylphenol | 5 U | 5 U | 5 U | 5 U |
| 4-Chloroaniline | 5 U | 5 U | 5 U | 5 U |
| 4-Chlorophenyl-phenylether | 5 U | 5 U | 5 U | 5 U |
| 4-Methylphenol | 5 U | 5 U | 5 U | 5 U |
| 4-Nitroaniline | 20 U | 20 U | 20 U | 20 U |
| 4-Nitrophenol | 20 U | 20 U | 20 U | 20 U |
| Acenaphthene | 5 U | 5 U | 5 U | 5 U |
| Acenaphthylene | 5 U | 5 U | 5 U | 5 U |
| Anthracene | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)anthracene | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)pyrene | 5 U | 5 U | 5 U | 5 U |
| Benzo(b)fluoranthene | 5 U | 5 U | 5 U | 5 U |
| Benzo(g,h,i)perylene | 5 U | 5 U | 5 U | 5 U |
| Benzo(k)fluoranthene | 5 U | 5 U | 5 U | 5 U |
| Butylbenzylphthalate | 5 U | 5 U | 5 U | 5 U |
| Chrysene | 5 U | 5 U | 5 U | 5 U |
| Di-n-butylphthalate | 5 U | 5 U | 5 U | 5 U |
| Di-n-octylphthalate | 5 U | 5 U | 5 U | 5 U |
| Dibenz(a,h)anthracene | 5 U | 5 U | 5 U | 5 U |
| Dibenzofuran | 5 U | 5 U | 5 U | 5 U |
| Diethylphthalate | 5 U | 5 U | 5 U | 5 U |
| Dimethyl phthalate | 5 U | 5 U | 5 U | 5 U |
| Fluoranthene | 5 U | 5 U | 5 U | 5 U |
| Fluorene | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobenzene | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobutadiene | 5 UJ | 5 UJ | 5 UJ | 5 UJ |
| Hexachlorocyclopentadiene | 5 UJ | 5 UJ | 5 UJ | 5 UJ |
| Hexachloroethane | 5 U | 5 U | 5 U | 5 U |
| Indeno(1,2,3-cd)pyrene | 5 U | 5 U | 5 U | 5 U |
| Isophorone | 5 U | 5 U | 5 U | 5 U |
| Naphthalene | 5 U | 5 U | 5 U | 5 U |
| Nitrobenzene | 5 U | 5 U | 5 U | 5 U |
| Pentachlorophenol | 5 U | 5 U | 5 U | 5 U |
| Phenanthrene | 5 U | 5 U | 5 U | 5 U |
| Phenol | 5 UJ | 5 UJ | 5 UJ | 5 UJ |
| Pyrene | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethoxy)methane | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethyl)ether | 5 U | 5 U | 5 U | 5 U |
| bis(2-Ethylhexyl)phthalate | 5 U | 5 U | 5 U | 5 U |
| n-Nitroso-di-n-propylamine | 5 U | 5 U | 5 U | 5 U |
| n-Nitrosodiphenylamine | 5 U | 5 U | 5 U | 5 U |
| | | | | |
| **Total Metals (UG/L)** | | | | |
| Arsenic | 2.08 U | 2.08 U | 3.3 J | 5.2 J |
| Barium | 27.8 J | 21.4 J | 21.1 J | 10.6 J |
| Cadmium | 0.32 U | 0.32 U | 0.32 U | 0.32 U |
| Chromium | 0.85 U | 0.85 U | 0.85 U | 0.85 U |
| Lead | 2.18 U | 2.18 U | 2.18 U | 2.18 U |
| Mercury | 0.04 U | 0.05 U | 0.04 U | 0.03 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 4.33 U |
| Silver | 1.3 U | 1.3 U | 1.3 U | 1.3 U |

Notes:

J - Reported result may not be accurate or precise

U - Not detected

Detects are shaded

**Table C-10**
**Site 2**
**Temporary Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-TW01 | OU5-S2-TW02 | OU5-S2-TW03 | | OU5-S2-TW04 | OU5-S2-TW05 | OU5-S2-TW06 | OU5-S2-TW07 | OU5-S2-TW08 | OU5-S2-TW09 | OU5-S2-TW10 | OU5-S2-TW11 | OU5-S2-TW12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-TW01 | OU5-S2-TW02 | OU5-S2-TW03 | OU5-S2-TW03-P | OU5-S2-TW04 | OU5-S2-TW05 | OU5-S2-TW06 | OU5-S2-TW07 | OU5-S2-TW08 | OU5-S2-TW09 | OU5-S2-TW10 | OU5-S2-TW11 | OU5-S2-TW12 |
| Sample Date | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/26/02 | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/26/02 |
| **Chemical Name** | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Volatile Organic Compounds (UG/L)** | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 | 2 | 2 J | 1 UJ | 1 | 1 U | 1 U | 0.5 J | 0.8 J | 1 | 1 U | 0.8 J | 1 |
| 1,1-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U |
| Acetone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzene | 1 U | 1 U | 2 | 2 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroethane | 1 U | 1 U | 1 U | 1 U | 0.6 J | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Methylene chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Styrene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Toluene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 9 | 9 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| | | | | | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-Trichlorophenol | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 UJ | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-Trichlorophenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

**Table C-10**
**Site 2**
**Temporary Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-TW01 | OU5-S2-TW02 | OU5-S2-TW03 | | OU5-S2-TW04 | OU5-S2-TW05 | OU5-S2-TW06 | OU5-S2-TW07 | OU5-S2-TW08 | OU5-S2-TW09 | OU5-S2-TW10 | OU5-S2-TW11 | OU5-S2-TW12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-TW01 | OU5-S2-TW02 | OU5-S2-TW03 | OU5-S2-TW03-P | OU5-S2-TW04 | OU5-S2-TW05 | OU5-S2-TW06 | OU5-S2-TW07 | OU5-S2-TW08 | OU5-S2-TW09 | OU5-S2-TW10 | OU5-S2-TW11 | OU5-S2-TW12 |
| Sample Date | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/26/02 | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/26/02 |
| **Chemical Name** | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dimethylphenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dinitrophenol | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 UJ | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-Dinitrotoluene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-Dinitrotoluene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Chloronaphthalene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Chlorophenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Methylnaphthalene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Methylphenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Nitroaniline | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-Nitrophenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-Nitroaniline | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4,6-Dinitro-2-methylphenol | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 UJ | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-Bromophenyl-phenylether | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chloro-3-methylphenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chloroaniline | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chlorophenyl-phenylether | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Methylphenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Nitroaniline | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-Nitrophenol | 20 U | 24 U | 20 U | 26 U | 20 U | 20 U | 20 UJ | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| Acenaphthene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Acenaphthylene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Anthracene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)anthracene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)pyrene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(b)fluoranthene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(g,h,i)perylene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(k)fluoranthene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Butylbenzylphthalate | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chrysene | 5 U | 5 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Di-n-butylphthalate | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Di-n-octylphthalate | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibenz(a,h)anthracene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibenzofuran | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Diethylphthalate | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dimethyl phthalate | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Fluoranthene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Fluorene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobenzene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobutadiene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorocyclopentadiene | 5 U | 6 UJ | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U |
| Hexachloroethane | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Indeno(1,2,3-cd)pyrene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Isophorone | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Naphthalene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Nitrobenzene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

**Table C-10**
**Site 2**
**Temporary Monitoring Well Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-TW01 | OU5-S2-TW02 | OU5-S2-TW03 | | OU5-S2-TW04 | OU5-S2-TW05 | OU5-S2-TW06 | OU5-S2-TW07 | OU5-S2-TW08 | OU5-S2-TW09 | OU5-S2-TW10 | OU5-S2-TW11 | OU5-S2-TW12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-TW01 | OU5-S2-TW02 | OU5-S2-TW03 | OU5-S2-TW03-P | OU5-S2-TW04 | OU5-S2-TW05 | OU5-S2-TW06 | OU5-S2-TW07 | OU5-S2-TW08 | OU5-S2-TW09 | OU5-S2-TW10 | OU5-S2-TW11 | OU5-S2-TW12 |
| Sample Date | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/26/02 | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/25/02 | 04/26/02 | 04/26/02 | 04/26/02 |
| **Chemical Name** | | | | | | | | | | | | | |
| Pentachlorophenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Phenanthrene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Phenol | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 UJ | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Pyrene | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethoxy)methane | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethyl)ether | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Ethylhexyl)phthalate | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| n-Nitroso-di-n-propylamine | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| n-Nitrosodiphenylamine | 5 U | 6 U | 5 U | 6 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| | | | | | | | | | | | | | |
| **Total Metals (UG/L)** | | | | | | | | | | | | | |
| Arsenic | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U | 2.08 U |
| Barium | 23.5 J | 9.8 J | 44.1 J | 32.4 J | 19.3 J | 13.8 J | 89.7 J | 15 J | 10.3 J | 62.3 J | 36.1 J | 34 J | 49.4 J |
| Cadmium | 0.32 U | 0.32 U | 0.67 J | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.65 J | 0.32 U | 0.32 U | 0.32 U |
| Chromium | 1.3 U | 0.85 U | 29.3 | 12.7 | 1.8 U | 0.85 U | 0.85 U | 0.85 U | 1.8 U | 1.4 J | 1.1 U | 1.4 U | 0.85 U |
| Lead | 2.2 J | 2.3 J | 6.5 | 3.7 | 2.3 J | 2.18 U | 2.18 U | 2.18 U | 2.18 U | 2.9 J | 3.1 J | 2.5 J | 2.18 U |
| Mercury | 0.01 U | 0.02 U | 0.05 U | 0.05 U | 0.03 U | 0.02 U | 0.02 U | 0.02 U | 0.01 U | 0.02 U | 0.02 U | 0.01 U | 0.03 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U |
| Silver | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U |
| | | | | | | | | | | | | | |
| **Dissolved Metals (UG/L)** | | | | | | | | | | | | | |
| Arsenic | NA | NA | 2.08 U | 2.08 U | NA | NA | NA | NA | 2.08 U | NA | NA | 2.08 U | NA |
| Barium | NA | NA | 27 J | 28.9 J | NA | NA | NA | NA | 7.5 J | NA | NA | 33.8 J | NA |
| Cadmium | NA | NA | 0.32 U | 0.32 U | NA | NA | NA | NA | 0.32 U | NA | NA | 0.32 U | NA |
| Chromium | NA | NA | 0.85 U | 0.85 U | NA | NA | NA | NA | 0.85 U | NA | NA | 0.85 U | NA |
| Lead | NA | NA | 2.18 U | 2.18 U | NA | NA | NA | NA | 2.3 J | NA | NA | 2.18 U | NA |
| Mercury | NA | NA | 0.06 U | 0.03 U | NA | NA | NA | NA | 0.1 U | NA | NA | 0.04 U | NA |
| Selenium | NA | NA | 4.33 U | 4.33 U | NA | NA | NA | NA | 4.33 U | NA | NA | 4.33 U | NA |
| Silver | NA | NA | 1.3 U | 1.3 U | NA | NA | NA | NA | 1.3 U | NA | NA | 1.3 U | NA |

Notes:
J - Reported result may not be accurate or precise
U - Not Detected
NA - Not analyzed
Detects are shaded

**Table C-11**
**Site 2**
**Surface Water Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SW01 | OU5-S2-SW02 | OU5-S2-SW03 | OU5-S2-SW04 | | OU5-S2-SW05 | |
|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SW01 | OU5-S2-SW02 | OU5-S2-SW03 | OU5-S2-SW04 | OU5-S2-SW04-P | OU5-S2-SW05 | OU5-S2-SW05-P |
| Sample Date | 04/24/02 | 04/24/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/24/02 | 04/24/02 |
| **Chemical Name** | | | | | | | |
| | | | | | | | |
| **Volatile Organic Compounds (UG/L)** | | | | | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U |
| Acetone | 4 U | 5 U | 24 | 5 U | 4 U | 5 U | 5 U |
| Benzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Methylene chloride | 4 UJ | 2 UJ | 5 UJ | 1 U | 4 UJ | 2 UJ | 3 UJ |
| Styrene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Toluene | 1 U | 0.5 J | 1 U | 1 U | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Xylene, total | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| | | | | | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | 5 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-Trichlorophenol | 20 | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-Trichlorophenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dichlorophenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dimethylphenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-Dinitrophenol | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-Dinitrotoluene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-Dinitrotoluene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

Table C-11
Site 2
Surface Water Analytical Results
OU5 Remedial Investigation
MCAS Cherry Point

| Station ID | OU5-S2-SW01 | OU5-S2-SW02 | OU5-S2-SW03 | OU5-S2-SW04 | | OU5-S2-SW05 | |
|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SW01 | OU5-S2-SW02 | OU5-S2-SW03 | OU5-S2-SW04 | OU5-S2-SW04-P | OU5-S2-SW05 | OU5-S2-SW05-P |
| Sample Date | 04/24/02 | 04/24/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/24/02 | 04/24/02 |
| **Chemical Name** | | | | | | | |
| 2-Chloronaphthalene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Chlorophenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Methylnaphthalene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Methylphenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Nitroaniline | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-Nitrophenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 5 R | 5 UJ | 5 R | 5 R | 5 R | 5 R | 5 R |
| 3-Nitroaniline | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4,6-Dinitro-2-methylphenol | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-Bromophenyl-phenylether | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chloro-3-methylphenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chloroaniline | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Chlorophenyl-phenylether | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Methylphenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-Nitroaniline | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-Nitrophenol | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| Acenaphthene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Acenaphthylene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Anthracene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)anthracene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(a)pyrene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(b)fluoranthene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(g,h,i)perylene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzo(k)fluoranthene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Butylbenzylphthalate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chrysene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Di-n-butylphthalate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Di-n-octylphthalate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibenz(a,h)anthracene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dibenzofuran | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Diethylphthalate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Dimethyl phthalate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Fluoranthene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Fluorene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorobutadiene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachlorocyclopentadiene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Hexachloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Indeno(1,2,3-cd)pyrene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Isophorone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Naphthalene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Nitrobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Pentachlorophenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Phenanthrene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Phenol | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Pyrene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethoxy)methane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Chloroethyl)ether | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| bis(2-Ethylhexyl)phthalate | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| n-Nitroso-di-n-propylamine | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| n-Nitrosodiphenylamine | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

**Table C-11**
**Site 2**
**Surface Water Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SW01 | OU5-S2-SW02 | OU5-S2-SW03 | OU5-S2-SW04 | | OU5-S2-SW05 | |
|---|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SW01 | OU5-S2-SW02 | OU5-S2-SW03 | OU5-S2-SW04 | OU5-S2-SW04-P | OU5-S2-SW05 | OU5-S2-SW05-P |
| Sample Date | 04/24/02 | 04/24/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/24/02 | 04/24/02 |
| **Chemical Name** | | | | | | | |
| **Total Metals (UG/L)** | | | | | | | |
| Arsenic | 2.4 J | 3.6 J | 7.6 J | 2.08 U | 2.08 U | 2.08 U | 2.08 U |
| Barium | 29.7 J | 31.4 J | 66.4 J | 40.9 J | 42.2 J | 40.3 J | 37.6 J |
| Cadmium | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.43 J | 0.33 J |
| Chromium | 1.9 J | 0.92 J | 9.3 J | 0.85 U | 0.85 U | 1.4 J | 0.85 U |
| Lead | 3 | 2.18 U | 2.18 U | 2.18 U | 2.18 U | 2.8 J | 2.18 U |
| Mercury | 0.02 U | 0.01 U | 0.01 U | 0.01 U | 0.02 U | 0.04 U | 0.05 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U |
| Silver | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 2 J | 1.8 J |
| | | | | | | | |
| **Dissolved Metals (UG/L)** | | | | | | | |
| Arsenic | 2.08 U | 2.1 J | 2.8 J | 2.08 U | 2.08 U | 2.08 U | 2.08 U |
| Barium | 23.8 J | 22.5 J | 26 J | 41.1 J | 41.6 J | 40.5 J | 37.8 J |
| Cadmium | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U | 0.32 U |
| Chromium | 1.6 J | 3.1 J | 0.85 U | 0.98 J | 1.1 J | 0.97 J | 0.89 J |
| Lead | 2.18 U | 2.18 U | 2.18 U | 2.18 U | 2.18 U | 2.18 U | 2.18 U |
| Mercury | 0.03 U | 0.02 U | 0.01 U | 0.02 U | 0.01 U | 0.03 U | 0.01 U |
| Selenium | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U | 4.33 U |
| Silver | 1.3 U | 1.9 J | 1.3 U | 1.7 J | 1.5 J | 2.1 J | 2.3 J |
| | | | | | | | |
| **Wet Chemistry (MG/L)** | | | | | | | |
| Dissolved organic carbon | 16 | 15 | 14 | 14 | 17 | 12 | 11 |
| Hardness | 140 | 240 | 240 | 690 | 990 | 1,300 | 2,100 |
| Total organic carbon (TOC) | 17 | 18 | 35 | 13 | 12 | 13 | 8.7 |

Notes:
J - Reported result may not be accurate or precise
U - Not detected
Detects are shaded

**Table C-12**
**Site 2**
**Sediment Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SD01 | OU5-S2-SD02 | OU5-S2-SD03 | OU5-S2-SD04 | | OU5-S2-SD05 |
|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SD01-00 | OU5-S2-SD02-00 | OU5-S2-SD03-00 | OU5-S2-SD04-00 | OU5-S2-SD04-P-00 | OU5-S2-SD05-00 |
| Sample Date | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 |
| **Chemical Name** | | | | | | |
| | | | | | | |
| **Volatile Organic Compounds (UG/KG)** | | | | | | |
| 1,1,1-Trichloroethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,1,2,2-Tetrachloroethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,1,2-Trichloroethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,1-Dichloroethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,1-Dichloroethene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,2,4-Trichlorobenzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,2-Dibromo-3-chloropropane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,2-Dibromoethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,2-Dichlorobenzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,2-Dichloroethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,2-Dichloropropane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,3-Dichlorobenzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 1,4-Dichlorobenzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 2-Butanone | 6 U | 8 U | 6 U | 110 J | 96 J | 44 UJ |
| 2-Hexanone | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| 4-Methyl-2-pentanone | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Acetone | 17 U | 20 U | 24 U | 280 UJ | 230 UJ | 97 UJ |
| Benzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Bromodichloromethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Bromoform | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Bromomethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Carbon disulfide | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 30 J |
| Carbon tetrachloride | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Chlorobenzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Chloroethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Chloroform | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Chloromethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Cumene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Cyclohexane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Dibromochloromethane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Dichlorodifluoromethane(Freon-12) | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Ethylbenzene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Methyl acetate | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Methyl-tert-butyl ether (MTBE) | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Methylcyclohexane | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Methylene chloride | 8 U | 13 U | 11 U | 72 UJ | 66 UJ | 68 UJ |
| Styrene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Tetrachloroethene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Toluene | 96 | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Trichloroethene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Trichlorofluoromethane(Freon-11) | 32 | 10 | 6 U | 45 J | 25 J | 110 J |
| Vinyl chloride | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| Xylene, total | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |

Table C-12
Site 2
Sediment Analytical Results
OU5 Remedial Investigation
MCAS Cherry Point

| Station ID | OU5-S2-SD01 | OU5-S2-SD02 | OU5-S2-SD03 | OU5-S2-SD04 | | OU5-S2-SD05 |
|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SD01-00 | OU5-S2-SD02-00 | OU5-S2-SD03-00 | OU5-S2-SD04-00 | OU5-S2-SD04-P-00 | OU5-S2-SD05-00 |
| Sample Date | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 |
| **Chemical Name** | | | | | | |
| cis-1,2-Dichloroethene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| cis-1,3-Dichloropropene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| trans-1,2-Dichloroethene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| trans-1,3-Dichloropropene | 6 U | 8 U | 6 U | 42 UJ | 40 UJ | 44 UJ |
| | | | | | | |
| **Semivolatile Organic Compounds (UG/KG)** | | | | | | |
| 1,1-Biphenyl | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2,2'-Oxybis(1-chloropropane) | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2,4,5-Trichlorophenol | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| 2,4,6-Trichlorophenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2,4-Dichlorophenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2,4-Dimethylphenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2,4-Dinitrophenol | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| 2,4-Dinitrotoluene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2,6-Dinitrotoluene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2-Chloronaphthalene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2-Chlorophenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2-Methylnaphthalene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2-Methylphenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 2-Nitroaniline | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| 2-Nitrophenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 3,3'-Dichlorobenzidine | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 3-Nitroaniline | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| 4,6-Dinitro-2-methylphenol | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| 4-Bromophenyl-phenylether | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 4-Chloro-3-methylphenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 4-Chloroaniline | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 4-Chlorophenyl-phenylether | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 4-Methylphenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| 4-Nitroaniline | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| 4-Nitrophenol | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| Acenaphthene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Acenaphthylene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Acetophenone | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Anthracene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Atrazine | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Benzaldehyde | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Benzo(a)anthracene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Benzo(a)pyrene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Benzo(b)fluoranthene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Benzo(g,h,i)perylene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Benzo(k)fluoranthene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Butylbenzylphthalate | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Caprolactam | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |

**Table C-12**
**Site 2**
**Sediment Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | OU5-S2-SD01 | OU5-S2-SD02 | OU5-S2-SD03 | OU5-S2-SD04 | | OU5-S2-SD05 |
|---|---|---|---|---|---|---|
| Sample ID | OU5-S2-SD01-00 | OU5-S2-SD02-00 | OU5-S2-SD03-00 | OU5-S2-SD04-00 | OU5-S2-SD04-P-00 | OU5-S2-SD05-00 |
| Sample Date | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 | 04/23/02 |
| **Chemical Name** | | | | | | |
| Carbazole | 430 UJ | 500 UJ | 430 UJ | 1,700 UJ | 1,600 UJ | 1,700 U |
| Chrysene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Di-n-butylphthalate | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Di-n-octylphthalate | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Dibenz(a,h)anthracene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Dibenzofuran | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Diethylphthalate | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Dimethyl phthalate | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Fluoranthene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Fluorene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Hexachlorobenzene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Hexachlorobutadiene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Hexachlorocyclopentadiene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Hexachloroethane | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Indeno(1,2,3-cd)pyrene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Isophorone | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Naphthalene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Nitrobenzene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Pentachlorophenol | 1,100 U | 1,200 U | 1,100 U | 4,300 U | 4,100 U | 4,400 U |
| Phenanthrene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Phenol | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| Pyrene | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| bis(2-Chloroethoxy)methane | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| bis(2-Chloroethyl)ether | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| bis(2-Ethylhexyl)phthalate | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| n-Nitroso-di-n-propylamine | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| n-Nitrosodiphenylamine | 430 U | 500 U | 430 U | 1,700 U | 1,600 U | 1,700 U |
| | | | | | | |
| **Total Metals (MG/KG)** | | | | | | |
| Arsenic | 3.3 | 1.4 | 1.4 | 3 J | 4 | 4.2 J |
| Barium | 12.5 J | 19.5 J | 9.7 J | 32 J | 31.3 J | 29.8 J |
| Cadmium | 0.07 J | 0.12 J | 0.16 J | 0.2 J | 0.27 J | 0.72 J |
| Chromium | 13.4 J | 8.2 J | 3.6 J | 16.1 J | 16.5 J | 31 J |
| Lead | 7.1 | 7.1 | 4.2 | 26.8 | 39.2 | 18.4 |
| Mercury | 0.02 J | 0.02 J | 0.02 J | 0.14 J | 0.1 J | 0.11 J |
| Selenium | 0.42 U | 0.53 U | 0.45 U | 1.85 | 1.59 | 2 |
| Silver | 0.13 U | 0.16 U | 0.14 U | 0.58 | 0.48 | 0.8 |
| | | | | | | |
| **Wet Chemistry** | | | | | | |
| % Solids | 79 | 66 | 76 | 19 | 20 | 19 |
| Total organic carbon (TOC) (MG/KG) | 4,780 | 14,200 | 4,050 | 214,000 | 130,000 | 104,000 |
| pH | 6.2 | 6.2 | 5.7 | 5 | 6.8 | 6.4 |

Notes:
J - Reported result may not be accurate or precise
U - Not detected
Detects are shaded

**Table C-13**
**QA/QC Sample Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | CP-QC | | | | | | | | CP-QC | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-FB041502 | OU5-TB041702 | OU5-EB041702 | OU5-TB041802 | OU5-EB041802 | OU5-TB042202 | OU5-EB042202 | OU5-FB042202 | OU5-TB042302 | OU5-EB042302 | OU5-TB042602-A | OU5-TB042602-B |
| Sample Date | 04/15/02 | 04/17/02 | 04/17/02 | 04/18/02 | 04/18/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/23/02 | 04/23/02 | 04/26/02 | 04/26/02 |
| **Chemical Name** | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Volatile Organic Compounds (UG/L)** | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-Tetrachloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2-Trichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 3 UJ | 0.8 J | 1 U |
| 1,1-Dichloropropene | NA | NA | NA | NA | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4-Trichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromo-3-chloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dibromoethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-Butanone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U |
| 4-Methyl-2-pentanone | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U |
| Acetone | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Benzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromodichloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Carbon tetrachloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chlorobenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloroethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 UJ | 1 UJ | 1 U |
| Chloroform | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Methylene chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 R | 1 R | 1 R | 1 R | 1 U | 1 U | 1 U |
| Styrene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Tetrachloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Toluene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 2 | 2 | 1 U | 1 U | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Xylene, total | NA | NA | NA | NA | NA | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| cis-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| m- and p-Xylene | NA | NA | NA | NA | NA | 1 U | 1 U | 1 U | NA | NA | NA | NA |
| o-Xylene | NA | NA | NA | NA | NA | 1 U | 1 U | 1 U | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| trans-1,3-Dichloropropene | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| | | | | | | | | | | | | |
| **Semivolatile Organic Compounds (UG/L)** | | | | | | | | | | | | |
| 1,1-Biphenyl | NA | NA | NA | NA | NA | NA | 6 U | NA | NA | NA | NA | NA |

**Table C-13**
**QA/QC Sample Analytical Results**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Station ID | CP-QC | | | | | | | | CP-QC | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-FB041502 | OU5-TB041702 | OU5-EB041702 | OU5-TB041802 | OU5-EB041802 | OU5-TB042202 | OU5-EB042202 | OU5-FB042202 | OU5-TB042302 | OU5-EB042302 | OU5-TB042602-A | OU5-TB042602-B |
| Sample Date | 04/15/02 | 04/17/02 | 04/17/02 | 04/18/02 | 04/18/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/23/02 | 04/23/02 | 04/26/02 | 04/26/02 |
| **Chemical Name** | | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 2,4,5-Trichlorophenol | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 U | NA | NA |
| 2,4,6-Trichlorophenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| 2,4-Dichlorophenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| 2,4-Dimethylphenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| 2,4-Dinitrophenol | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 U | NA | NA |
| 2,4-Dinitrotoluene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 2,6-Dinitrotoluene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 2-Chloronaphthalene | 5 U | NA | 6 U | NA | 6 U | NA | NA | 6 U | NA | 5 UJ | NA | NA |
| 2-Chlorophenol | 5 UJ | NA | 6 UJ | NA | 6 UJ | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| 2-Methylnaphthalene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 2-Methylphenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| 2-Nitroaniline | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 UJ | NA | NA |
| 2-Nitrophenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| 3,3'-Dichlorobenzidine | 5 U | NA | 6 U | NA | 6 U | NA | 6 R | 6 R | NA | 5 R | NA | NA |
| 3-Nitroaniline | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 UJ | NA | NA |
| 4,6-Dinitro-2-methylphenol | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 U | NA | NA |
| 4-Bromophenyl-phenylether | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 4-Chloro-3-methylphenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | NA | NA | 5 U | NA | NA |
| 4-Chloroaniline | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 4-Chlorophenyl-phenylether | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| 4-Methylphenol | 5 U | NA | 6 U | NA | 6 U | NA | NA | 6 U | NA | 5 U | NA | NA |
| 4-Nitroaniline | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 UJ | NA | NA |
| 4-Nitrophenol | 20 U | NA | 22 U | NA | 22 U | NA | 22 U | 22 U | NA | 20 U | NA | NA |
| Acenaphthene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Acenaphthylene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Acetophenone | NA | NA | NA | NA | NA | NA | 6 U | NA | NA | NA | NA | NA |
| Anthracene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Benzo(a)anthracene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Benzo(a)pyrene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Benzo(b)fluoranthene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Benzo(g,h,i)perylene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Benzo(k)fluoranthene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Butylbenzylphthalate | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Caprolactam | NA | NA | NA | NA | NA | NA | NA | 6 U | NA | NA | NA | NA |
| Chrysene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Di-n-butylphthalate | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Di-n-octylphthalate | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Dibenz(a,h)anthracene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Dibenzofuran | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Diethylphthalate | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Dimethyl phthalate | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Fluoranthene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Fluorene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Hexachlorobenzene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |

## Table C-13
## QA/QC Sample Analytical Results
## OU5 Remedial Investigation
## MCAS Cherry Point

| Station ID | CP-QC | | | | | | | | CP-QC | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | OU5-FB041502 | OU5-TB041702 | OU5-EB041702 | OU5-TB041802 | OU5-EB041802 | OU5-TB042202 | OU5-EB042202 | OU5-FB042202 | OU5-TB042302 | OU5-EB042302 | OU5-TB042602-A | OU5-TB042602-B |
| Sample Date | 04/15/02 | 04/17/02 | 04/17/02 | 04/18/02 | 04/18/02 | 04/22/02 | 04/22/02 | 04/22/02 | 04/23/02 | 04/23/02 | 04/26/02 | 04/26/02 |
| **Chemical Name** | | | | | | | | | | | | |
| Hexachlorobutadiene | 5 UJ | NA | 6 UJ | NA | 6 UJ | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Hexachlorocyclopentadiene | 5 UJ | NA | 6 UJ | NA | 6 UJ | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Hexachloroethane | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Indeno(1,2,3-cd)pyrene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Isophorone | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Naphthalene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Nitrobenzene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Pentachlorophenol | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| Phenanthrene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| Phenol | 5 UJ | NA | 6 UJ | NA | 6 UJ | NA | 6 U | 6 U | NA | 5 U | NA | NA |
| Pyrene | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| bis(2-Chloroethoxy)methane | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| bis(2-Chloroethyl)ether | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| bis(2-Ethylhexyl)phthalate | 11 | NA | 6 U | NA | 6 U | NA | 6 U | 86 U | NA | 5 UJ | NA | NA |
| n-Nitroso-di-n-propylamine | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| n-Nitrosodiphenylamine | 5 U | NA | 6 U | NA | 6 U | NA | 6 U | 6 U | NA | 5 UJ | NA | NA |
| | | | | | | | | | | | | |
| **Total Metals (UG/L)** | | | | | | | | | | | | |
| Arsenic | 2.08 U | NA | 2.3 J | NA | 2.08 U | NA | 2.08 U | 2.08 U | NA | 2.08 U | NA | NA |
| Barium | 1.3 J | NA | 1.3 J | NA | 1.5 J | NA | 0.29 U | 0.29 U | NA | 0.29 U | NA | NA |
| Cadmium | 0.32 U | NA | 0.32 U | NA | 0.32 U | NA | 0.32 U | 0.32 U | NA | 0.32 U | NA | NA |
| Chromium | 0.85 U | NA | 0.85 U | NA | 0.85 U | NA | 0.85 U | 0.85 U | NA | 1.2 J | NA | NA |
| Lead | 2.18 U | NA | 2.18 U | NA | 2.18 U | NA | 2.18 U | 2.18 U | NA | 2.3 J | NA | NA |
| Mercury | 0.06 U | NA | 0.04 U | NA | 0.03 U | NA | 0.01 U | 0.01 U | NA | 0.05 U | NA | NA |
| Selenium | 4.33 U | NA | 4.33 U | NA | 4.33 U | NA | 4.33 U | 4.33 U | NA | 4.33 U | NA | NA |
| Silver | 1.3 U | NA | 1.3 U | NA | 1.3 U | NA | 1.3 U | 1.3 U | NA | 1.3 U | NA | NA |
| | | | | | | | | | | | | |
| **Dissolved Metals (UG/L)** | | | | | | | | | | | | |
| Arsenic | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.08 U | NA | NA |
| Barium | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.29 U | NA | NA |
| Cadmium | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.32 U | NA | NA |
| Chromium | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.85 U | NA | NA |
| Lead | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.18 U | NA | NA |
| Mercury | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.03 U | NA | NA |
| Selenium | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.33 U | NA | NA |
| Silver | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.3 U | NA | NA |
| | | | | | | | | | | | | |
| **Wet Chemistry (MG/L)** | | | | | | | | | | | | |
| Dissolved organic carbon | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1 U | NA | NA |
| Hardness | NA | NA | NA | NA | NA | NA | NA | NA | NA | 20 | NA | NA |
| Total organic carbon (TOC) | NA | NA | NA | NA | NA | NA | 1 U | 1 U | NA | 1 U | NA | NA |

Notes:

J - Reported result may not be accurate or precise

R - Unusable

U - Not detected

NA - Not analyzed

Detects are shaded

# SUBCONTRACTED DATA

# WS0998 TOC

# WS1032 GRAIN SIZE

SEVERN
TRENT
SERVICES

**Severn Trent Laboratories, Inc.**

# SAMPLE DATA SUMMARY PACKAGE

**SDG NO:** 87708

SEVERN
TRENT
SERVICES

**STL Burlington**
208 South Park Drive
Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248
www.stl-inc.com

May 28, 2002

Mr. Michael Cooney
Katahdin Analytical Services
340 County Road #5
Westbrook, ME 04092

Re: Laboratory Project No.: 22000
SDG: 87708

Dear Mr. Cooney:

Enclosed are the analytical results of samples received intact by Severn Trent Laboratories on May 15, 2002. Laboratory numbers have been assigned and designated as follows:

| Lab ID | Client Sample ID | Sample Date | Sample Matrix |
|---|---|---|---|
| | Received: 05/15/02 ETR No: 87708 | | |
| 485715 | OU5-S2-SD03-00 | 04/23/02 | Sludge |
| 485716 | OU5-S2-SD04-00 | 04/23/02 | Sludge |
| 485717 | OU5-S1-SD02-00 | 04/23/02 | Sludge |
| 485718 | OU5-S2-SD01-00 | 04/23/02 | Sludge |
| 485719 | OU5-S1-SD03-00 | 04/23/02 | Sludge |
| 485720 | OU5-S1-SD04-00 | 04/23/02 | Sludge |
| 485721 | OU5-S2-SD02-00 | 04/23/02 | Sludge |
| 485722 | OU5-S1-SD07-00 | 04/23/02 | Sludge |
| 485723 | OU5-S1-SD06-00 | 04/23/02 | Sludge |
| 485724 | OU5-S1-SD01-00 | 04/23/02 | Sludge |
| 485725 | OU5-S1-SD08-00 | 04/23/02 | Sludge |
| 485726 | OU5-S2-SD05-00 | 04/23/02 | Sludge |
| 485727 | OU5-S1-SD05-00 | 04/23/02 | Sludge |

**Total Organic Carbon by the Lloyd Kahn Method:**
Please note that the field samples in this delivery group were received by the Laboratory beyond the method prescribed holding time. The client was aware of the holding time violation and directed the Laboratory to proceed with the analyses as normal.

The results of the field samples OU5-S1-SD02-00, OU5, S2-SD02-00, OU5-S1-SD07-00 and OU5-S1-SD03-00 were reported from the analytical sequence performed on 05/17/02 which exhibited better percent relative standard deviation than the sequence performed on 05/16/02. The laboratory suspects that these samples were non-homogenous.

SEVERN TRENT SERVICES

STL Burlington

Client specific matrix spike/matrix spike duplicate samples were not performed, nor requested with this sample delivery group.

If there are any questions regarding this submittal, please contact Ron Pentkowski on at (802) 655-1203.

This report shall not be reproduced, except in full, without the written approval of the laboratory. This report is sequentially numbered starting with page 0001 and ending with page 0346.

I certify that this package is in compliance with the NELAC requirements, both technically and for completeness, for other than the conditions detailed above. The release of the data contained in this hardcopy data package and the computer readable data submitted on diskette has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Sincerely,

Michael F. Wheeler, Ph.D.
Laboratory Director

Enclosure

Katahdin
ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04092
Tel: (207) 874-2400
Fax: (207) 775-4029

# CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Page ____ of ____

Client: Katahdin
Contact: Rob Thomas
Phone #: ( )
Fax #: ( )
Address
City
State
Zip Code

Purchase Order #
Proj. Name / No.: WS1032, Cherry Point
Katahdin Quote #

Bill (if different than above)
Address

Sampler (Print / Sign)
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT MANAGER

REMARKS: Subbed to STL-VT

SHIPPING INFO: ☐ FED EX ☒ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

| * | Sample Description | Date / Time coll'd | Matrix | No. of Cntrs. | Grain Size | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Filt. ☐Y☐N | Fi ☐Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CU5-S2-SD03-00 | 04/23/02 / 0845 | SL | 1 | X | | | | | | | | | | |
| | CU5-S2-SD04-00 | / 0855 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD02-00 | / 1200 | | 1 | X | | | | | | | | | | |
| | CU5-S2-SD01-00 | / 1115 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD03-00 | / 1245 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD04-00 | / 1345 | | 1 | X | | | | | | | | | | |
| | CU5-S2-SD02-00 | / 1135 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD07-00 | / 1505 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD06-00 | / 1445 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD01-00 | / 1320 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD08-00 | / 1410 | | 1 | X | | | | | | | | | | |
| | CU5-S2-SD05-00 | / 1630 | | 1 | X | | | | | | | | | | |
| | CU5-S1-SD05-00 | / 1550 | | 1 | X | | | | | | | | | | |
| | | / | | | | | | | | | | | | | |
| | | / | | | | | | | | | | | | | |
| | | / | | | | | | | | | | | | | |

COMMENTS

TV DQ(Kusch2-GV) SD08 (D006 Begin/End Results reported by 5-04-02)

| Relinquished By: (Signature) | Date / Time | Received By: (Signature) | Relinquished By: (Signature) | Date / Time | Received By: (Signature) |
|---|---|---|---|---|---|
| [illegible] | 4/30 1430 | Fedex UPS | Fedex UPS | 4-30-02 0930 | [illegible] |
| Relinquished By: (Signature) | Date / Time | Received By: (Signature) | Relinquished By: (Signature) | Date / Time | Received By: (Signature) |
| | | | | | |

FORMSOURCE INC. (877) 782-3311
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DUPLICATE

SEVERN
TRENT
SERVICES

**Severn Trent Laboratories, Inc.**

# SAMPLE DATA SUMMARY PACKAGE

**FOR** Particle Size

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

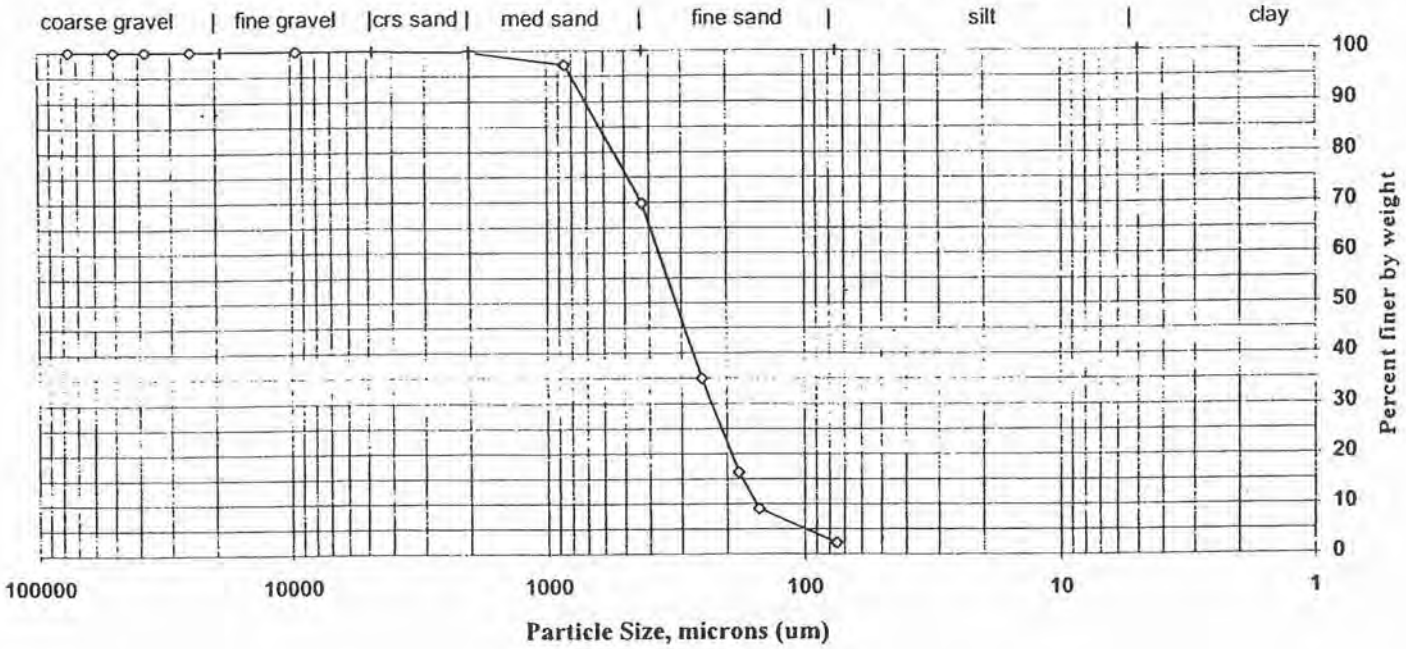
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485715 **Sample ID:** S2-SD03

**Percent Solids:** 74.9% **Maximum Particle Size:** Crs sand

**Specific Gravity:** 2.65 **Shape (> #10):** subangular

**Hardness (> #10):** hard




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 99.7 | 0.3 |
| #20 | 850 | 97.2 | 2.5 |
| #40 | 425 | 69.8 | 27.4 |
| #60 | 250 | 35.0 | 34.9 |
| #80 | 180 | 16.4 | 18.6 |
| #100 | 150 | 9.0 | 7.3 |
| #200 | 75 | 2.2 | 6.8 |
| Hydrometer | 0.0 | 0.0 | 2.2 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

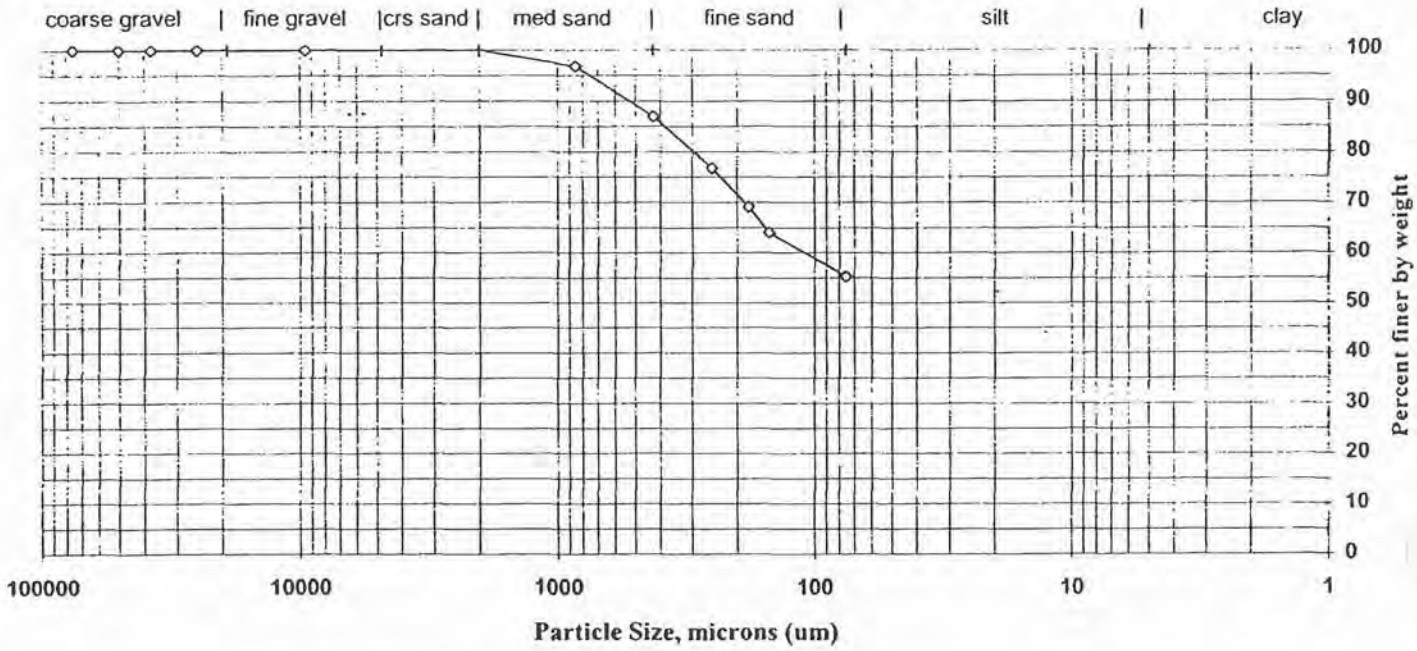
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485716 **Sample ID:** S2-SD04

**Percent Solids:** 22.4% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 96.8 | 3.2 |
| #40 | 425 | 86.9 | 9.9 |
| #60 | 250 | 76.7 | 10.2 |
| #80 | 180 | 69.1 | 7.6 |
| #100 | 150 | 64.0 | 5.1 |
| #200 | 75 | 55.2 | 8.8 |
| Hydrometer | 0.0 | 0.0 | 55.2 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

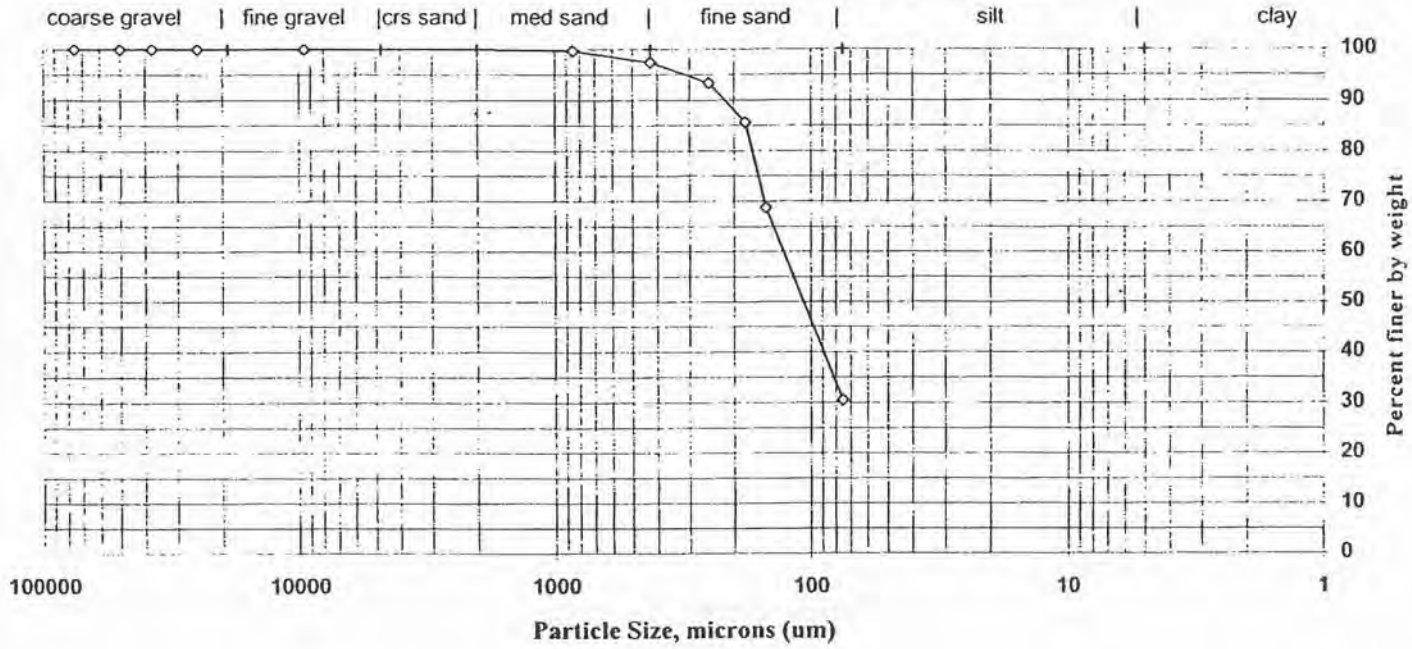
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485717 **Sample ID:** S1-SD02

**Percent Solids:** 69.9% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.7 | 0.3 |
| #40 | 425 | 97.4 | 2.3 |
| #60 | 250 | 93.3 | 4.1 |
| #80 | 180 | 85.6 | 7.7 |
| #100 | 150 | 68.7 | 16.9 |
| #200 | 75 | 30.5 | 38.2 |
| Hydrometer | 0.0 | 0.0 | 30.5 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

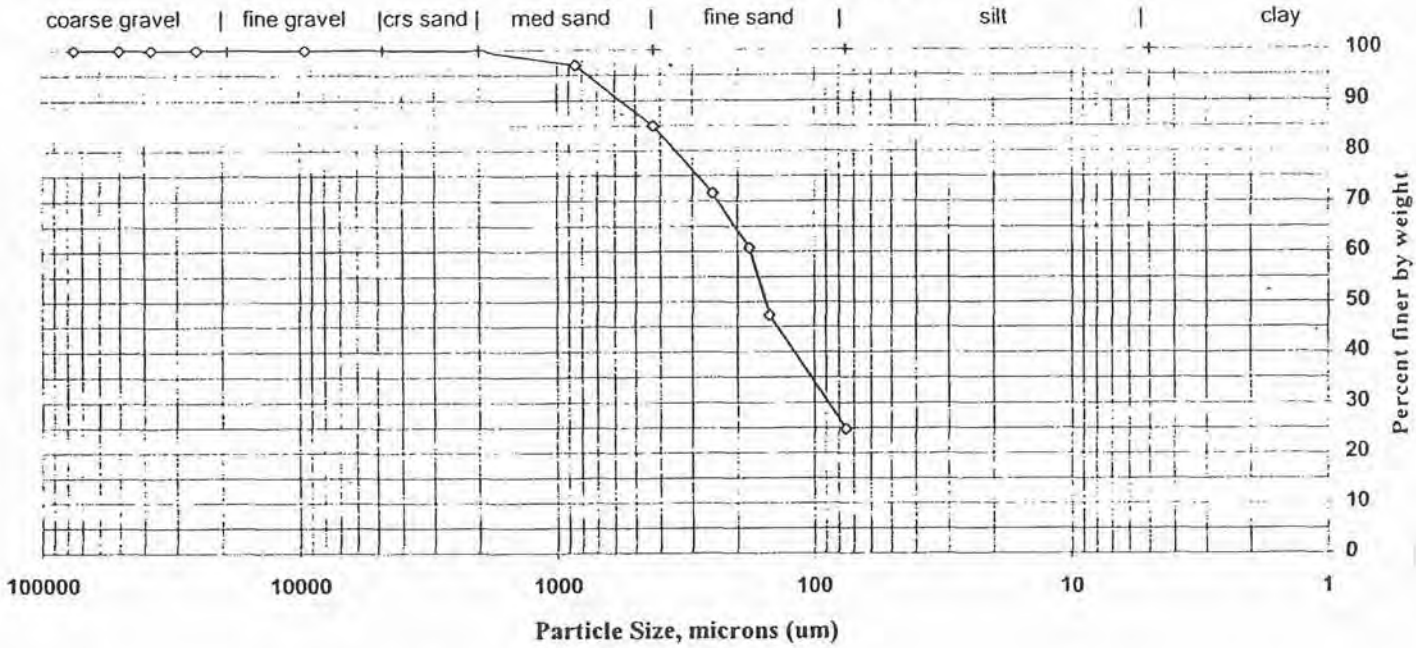
| | | | | | |
|---|---|---|---|---|---|
| Client: | KATANA | Project No.: | 22000 | ETR(s) #: | 87708 |
| Client Code: | KATANA | Job No.: | Cherry Pt. | SDG(s): | 87708 |
| Date Received: | 30-Apr-02 | Start Date: | 15-May-02 | End Date: | 22-May-02 |

**Lab ID:** 485718 **Sample ID:** S2-SD01

**Percent Solids:** 77.6% **Maximum Particle Size:** Crs sand

**Specific Gravity:** 2.65 **Shape (> #10):** subangular

**Hardness (> #10):** hard




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 99.8 | 0.2 |
| #20 | 850 | 97.0 | 2.8 |
| #40 | 425 | 84.9 | 12.0 |
| #60 | 250 | 71.6 | 13.3 |
| #80 | 180 | 60.7 | 10.9 |
| #100 | 150 | 47.3 | 13.5 |
| #200 | 75 | 24.8 | 22.5 |
| Hydrometer | 0.0 | 0.0 | 24.8 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

Submitted By: _____ Date: 05/23/02 STL - Burlington 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

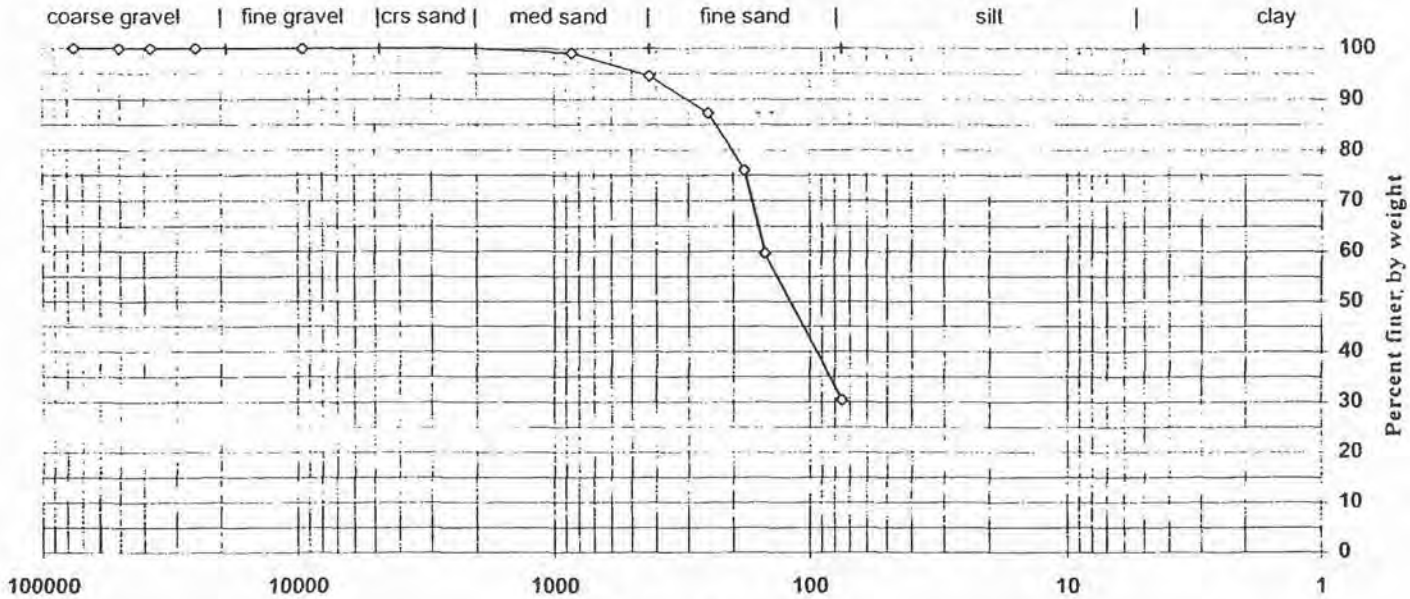
| | | | | | |
|---|---|---|---|---|---|
| Client: | KATANA | Project No.: | 22000 | ETR(s) #: | 87708 |
| Client Code: | KATANA | Job No.: | Cherry Pt. | SDG(s): | 87708 |
| Date Received: | 30-Apr-02 | Start Date: | 15-May-02 | End Date: | 22-May-02 |

**Lab ID:** 485719 **Sample ID:** S1-SD03

**Percent Solids:** 69.1% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.1 | 0.9 |
| #40 | 425 | 94.6 | 4.5 |
| #60 | 250 | 87.3 | 7.3 |
| #80 | 180 | 76.0 | 11.3 |
| #100 | 150 | 59.7 | 16.4 |
| #200 | 75 | 30.4 | 29.2 |
| Hydrometer | 0.0 | 0.0 | 30.4 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

Submitted By: _____ Date: 05/23/02 STL - Burlington 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

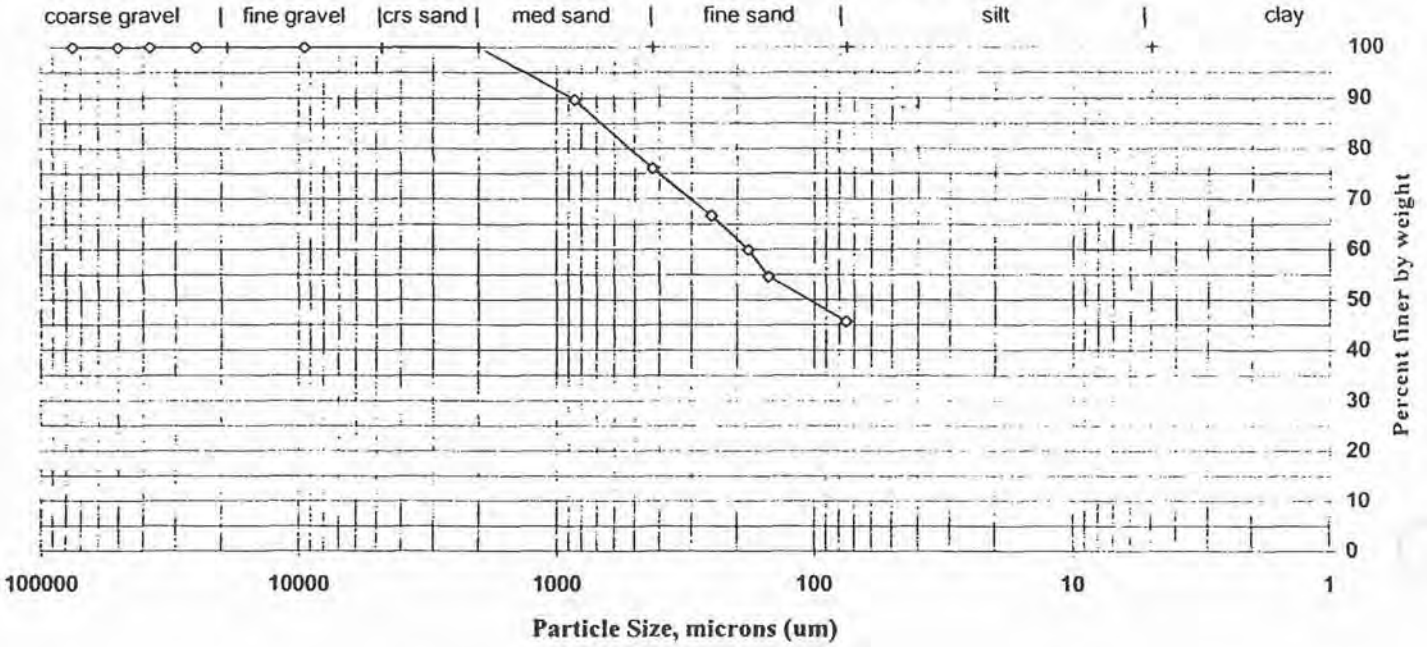
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485720 **Sample ID:** S1-SD04

**Percent Solids:** 12.8% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 89.7 | 10.3 |
| #40 | 425 | 76.0 | 13.7 |
| #60 | 250 | 66.7 | 9.3 |
| #80 | 180 | 59.9 | 6.8 |
| #100 | 150 | 54.6 | 5.3 |
| #200 | 75 | 45.7 | 8.9 |
| Hydrometer | 0.0 | 0.0 | 45.7 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

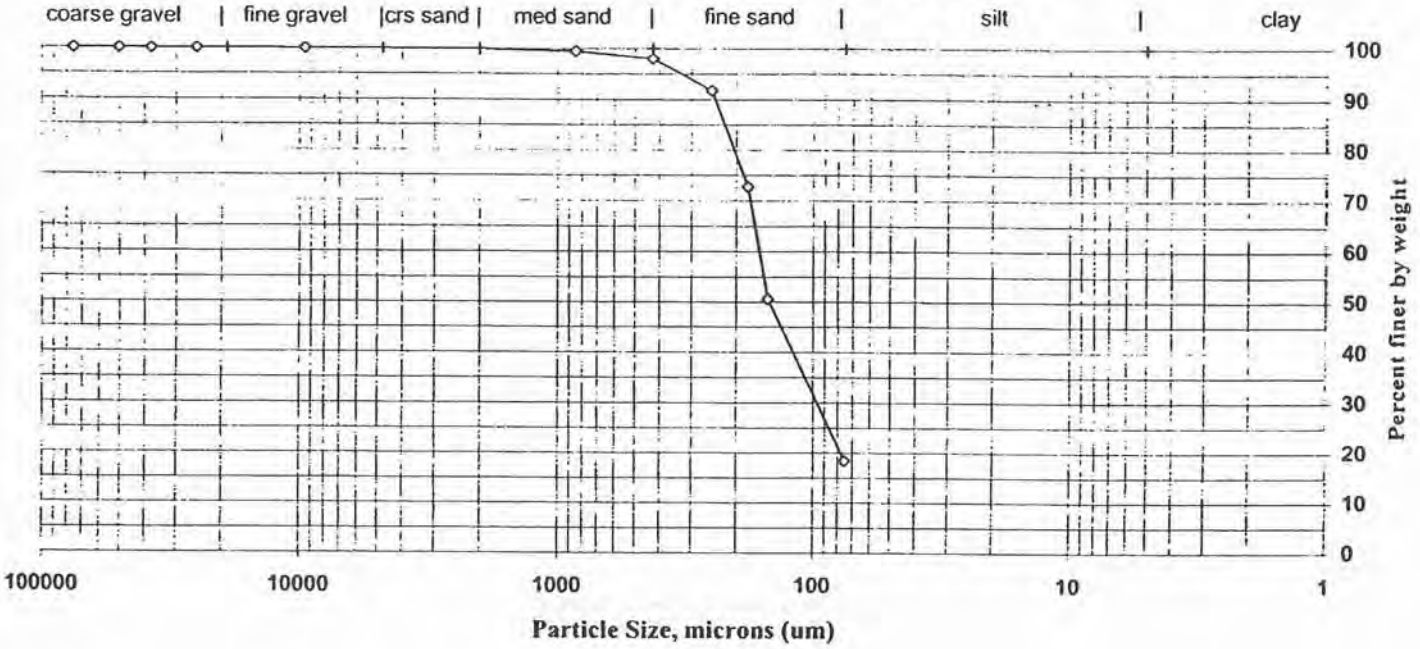
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485721 **Sample ID:** S2-SD02

**Percent Solids:** 69.7% **Maximum Particle Size:** Crs sand

**Specific Gravity:** 2.65 **Shape (> #10):** subangular

**Hardness (> #10):** hard




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 99.9 | 0.1 |
| #20 | 850 | 99.5 | 0.4 |
| #40 | 425 | 98.1 | 1.4 |
| #60 | 250 | 91.8 | 6.3 |
| #80 | 180 | 72.7 | 19.1 |
| #100 | 150 | 50.6 | 22.1 |
| #200 | 75 | 18.4 | 32.2 |
| Hydrometer | 0.0 | 0.0 | 18.4 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

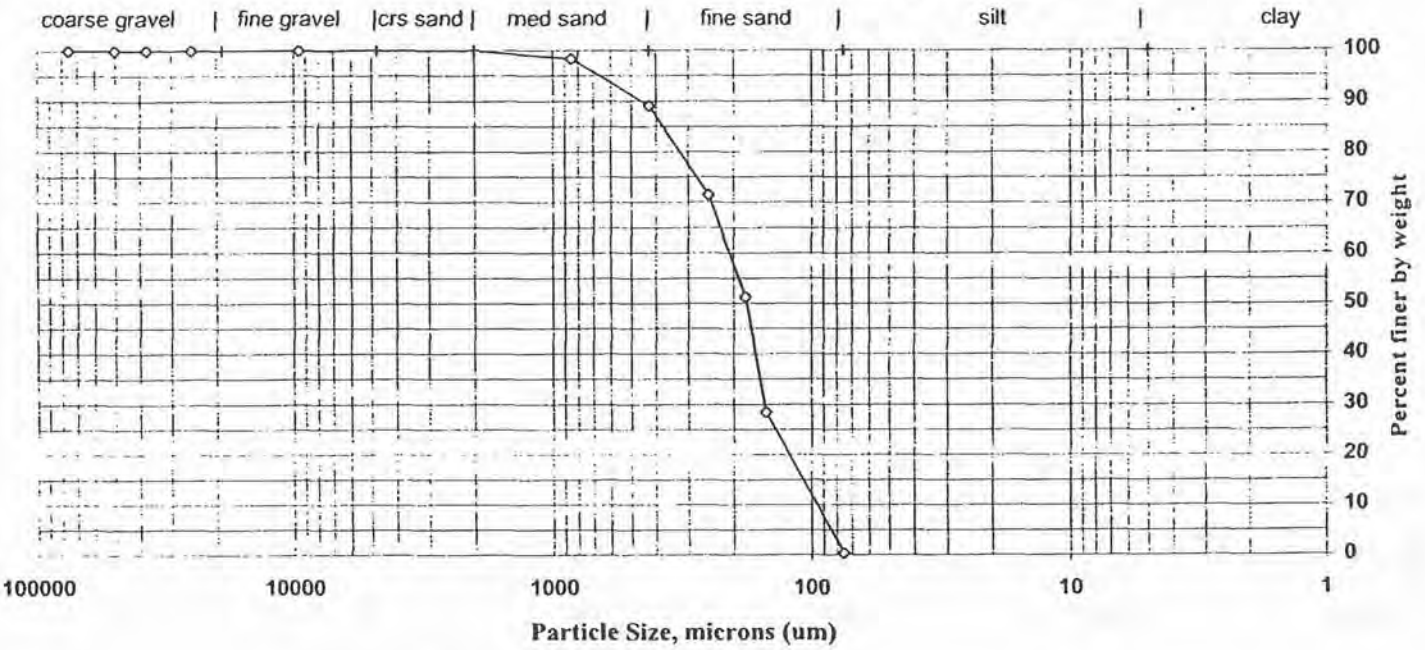
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485722 **Sample ID:** S1-SD07

**Percent Solids:** 47.8% **Maximum Particle Size:** Crs sand

**Specific Gravity:** 2.65 **Shape (> #10):** subangular

**Hardness (> #10):** hard




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 99.9 | 0.1 |
| #20 | 850 | 98.4 | 1.6 |
| #40 | 425 | 89.1 | 9.3 |
| #60 | 250 | 71.5 | 17.6 |
| #80 | 180 | 51.3 | 20.2 |
| #100 | 150 | 28.4 | 22.9 |
| #200 | 75 | 0.3 | 28.1 |
| Hydrometer | 0.0 | 0.0 | 0.3 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

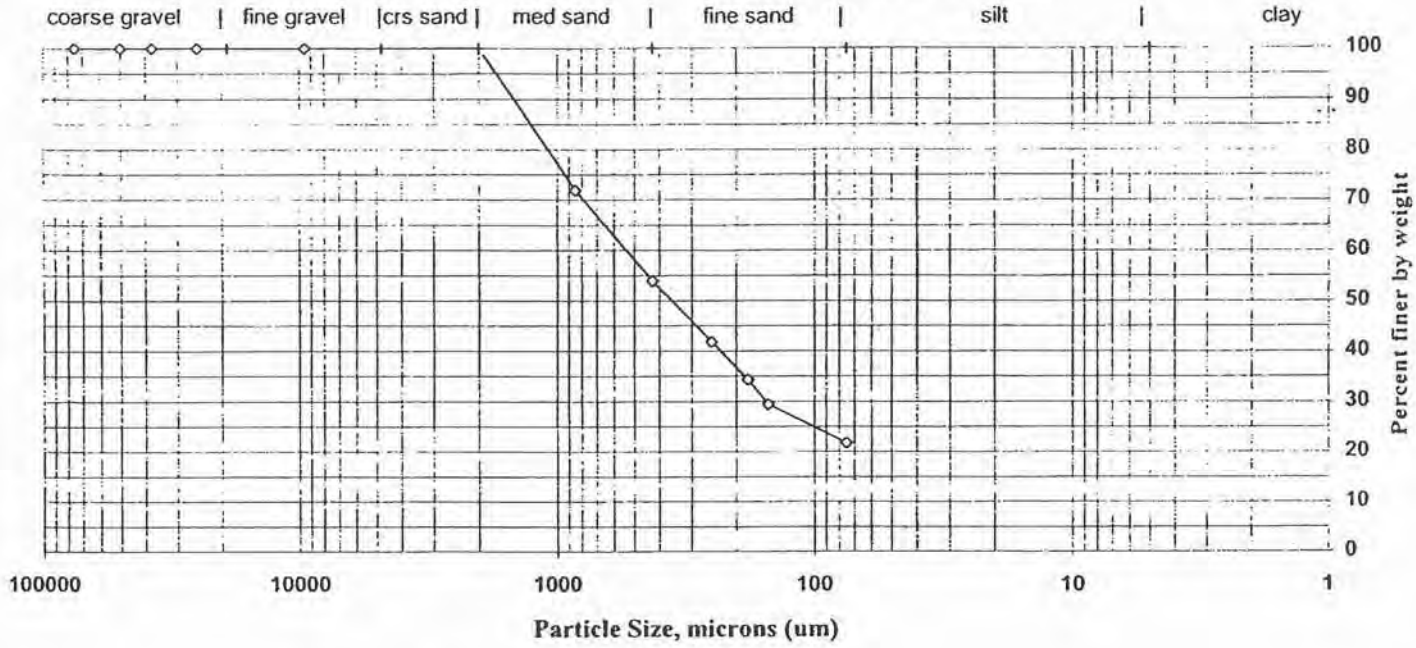
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485723 **Sample ID:** S1-SD06

**Percent Solids:** 12.9% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 71.9 | 28.1 |
| #40 | 425 | 53.9 | 18.0 |
| #60 | 250 | 41.8 | 12.2 |
| #80 | 180 | 34.3 | 7.4 |
| #100 | 150 | 29.4 | 5.0 |
| #200 | 75 | 21.8 | 7.6 |
| Hydrometer | 0.0 | 0.0 | 21.8 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02

# Particle Size of Soils by ASTM D422

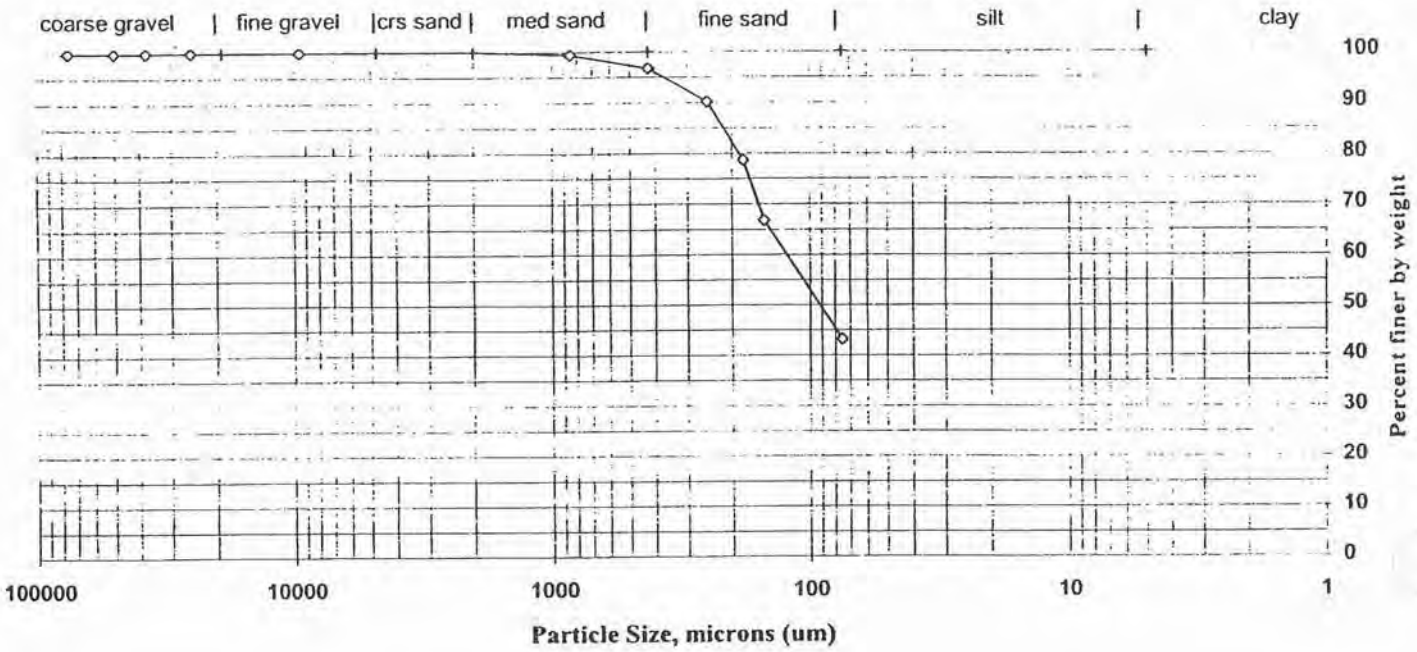
Sample preparation by: **D2217**

| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485724 **Sample ID:** S1-SD01

**Percent Solids:** 39.4%
**Specific Gravity:** 2.65

**Maximum Particle Size:** Med sand
**Shape (> #10):** N/A
**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.4 | 0.6 |
| #40 | 425 | 96.7 | 2.7 |
| #60 | 250 | 90.2 | 6.6 |
| #80 | 180 | 78.7 | 11.4 |
| #100 | 150 | 66.8 | 11.9 |
| #200 | 75 | 43.2 | 23.6 |
| Hydrometer | 0.0 | 0.0 | 43.2 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

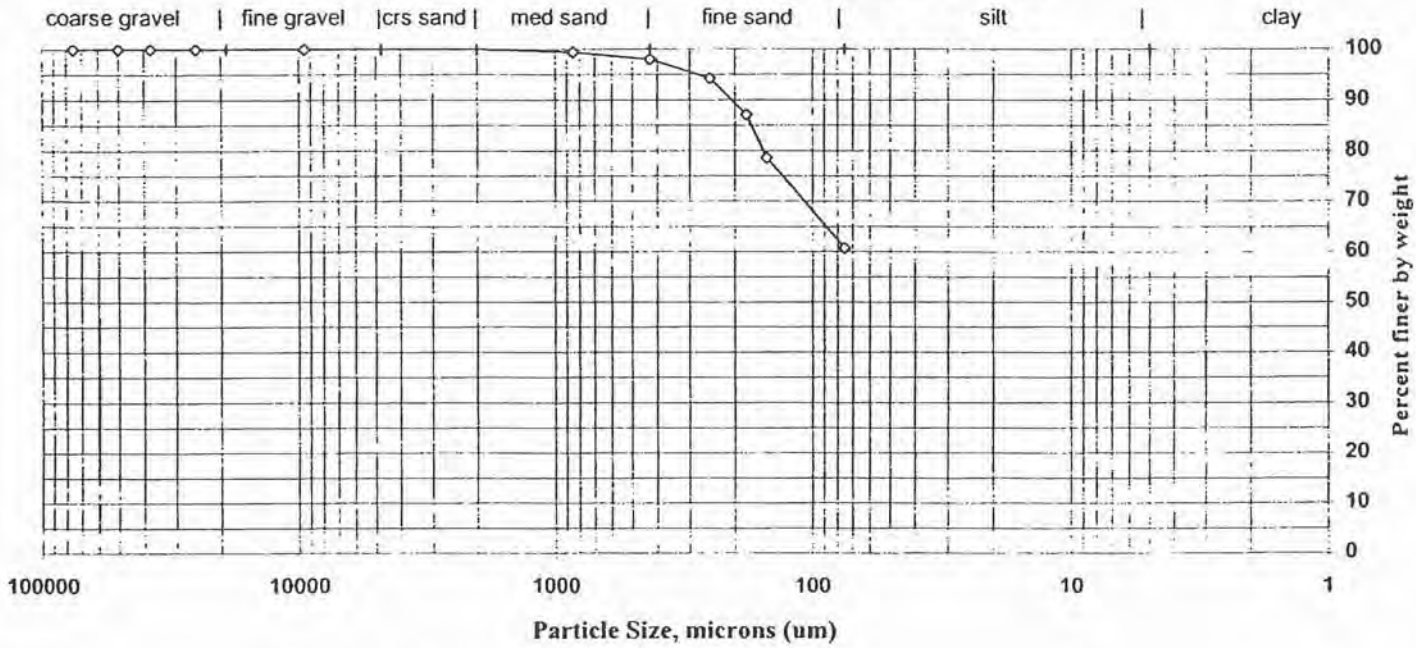
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485725 **Sample ID:** S1-SD08

**Percent Solids:** 30.0% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.4 | 0.6 |
| #40 | 425 | 98.0 | 1.4 |
| #60 | 250 | 94.3 | 3.7 |
| #80 | 180 | 87.1 | 7.2 |
| #100 | 150 | 78.6 | 8.5 |
| #200 | 75 | 60.7 | 17.8 |
| Hydrometer | 0.0 | 0.0 | 60.7 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

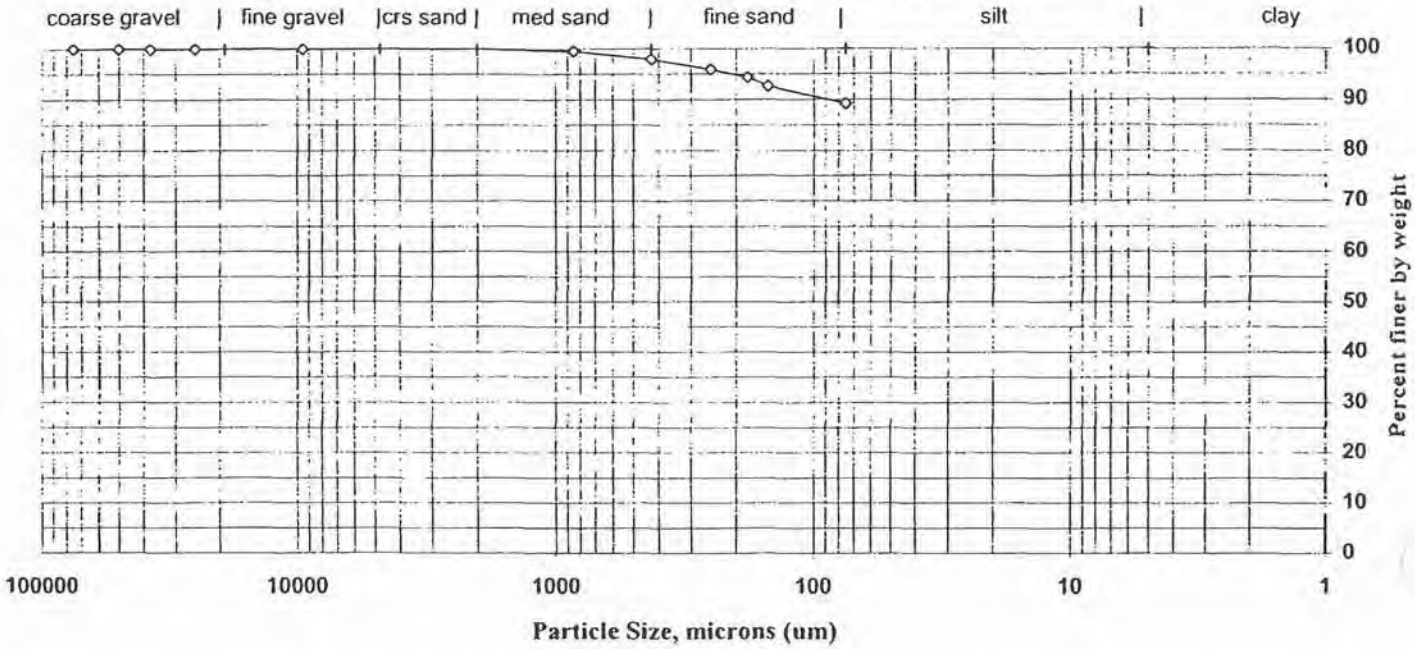
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485726 **Sample ID:** S2-SD05

**Percent Solids:** 18.5% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.5 | 0.5 |
| #40 | 425 | 97.9 | 1.6 |
| #60 | 250 | 95.9 | 2.0 |
| #80 | 180 | 94.3 | 1.6 |
| #100 | 150 | 92.7 | 1.6 |
| #200 | 75 | 89.2 | 3.5 |
| Hydrometer | 0.0 | 0.0 | 89.2 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

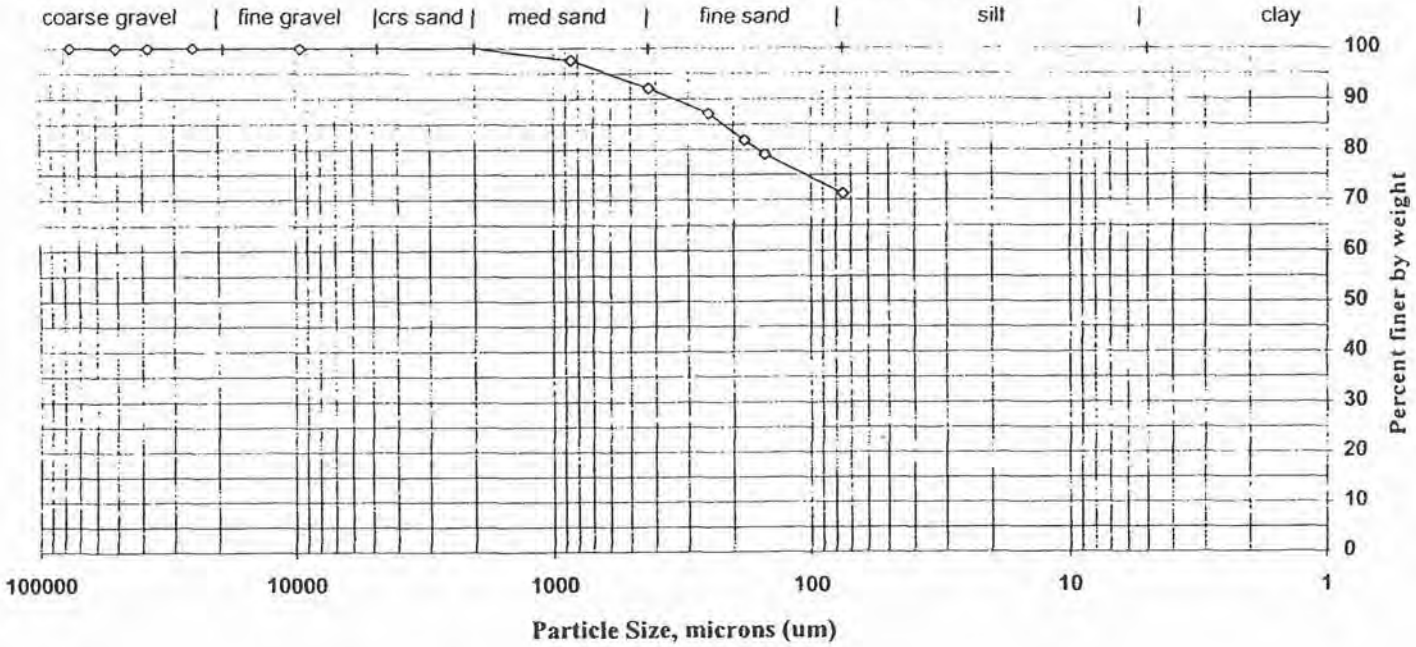
Sample preparation by: D2217

| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 25-Apr-02 | **Start Date:** | 06-May-02 | **End Date:** | 08-May-02 |

**Lab ID:** 485727 **Sample ID:** S1-SD05-00

**Percent Solids:** 14.6%
**Specific Gravity:** 2.65

**Maximum Particle Size:** Med sand
**Shape (> #10):** N/A
**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 97.6 | 2.4 |
| #40 | 425 | 92.1 | 5.5 |
| #60 | 250 | 87.2 | 5.0 |
| #80 | 180 | 81.9 | 5.3 |
| #100 | 150 | 79.0 | 2.8 |
| #200 | 75 | 71.3 | 7.7 |
| Hydrometer | 0.0 | 0.0 | 71.3 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 STL - Burlington 87643SO.xls::Report

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

# PARTICLE SIZE ANALYSIS

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

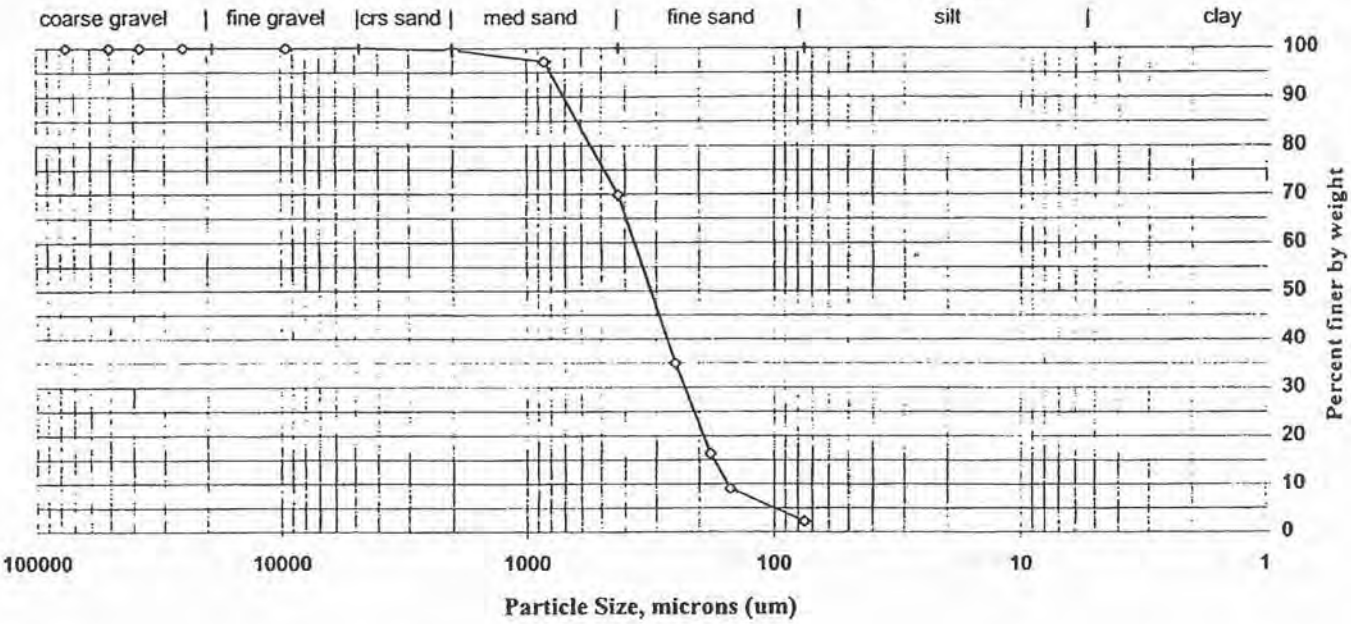
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485715 **Sample ID:** S2-SD03

**Percent Solids:** 74.9% **Maximum Particle Size:** Crs sand

**Specific Gravity:** 2.65 **Shape (> #10):** subangular

**Hardness (> #10):** hard




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 99.7 | 0.3 |
| #20 | 850 | 97.2 | 2.5 |
| #40 | 425 | 69.8 | 27.4 |
| #60 | 250 | 35.0 | 34.9 |
| #80 | 180 | 16.4 | 18.6 |
| #100 | 150 | 9.0 | 7.3 |
| #200 | 75 | 2.2 | 6.8 |
| Hydrometer | 0.0 | 0.0 | 2.2 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

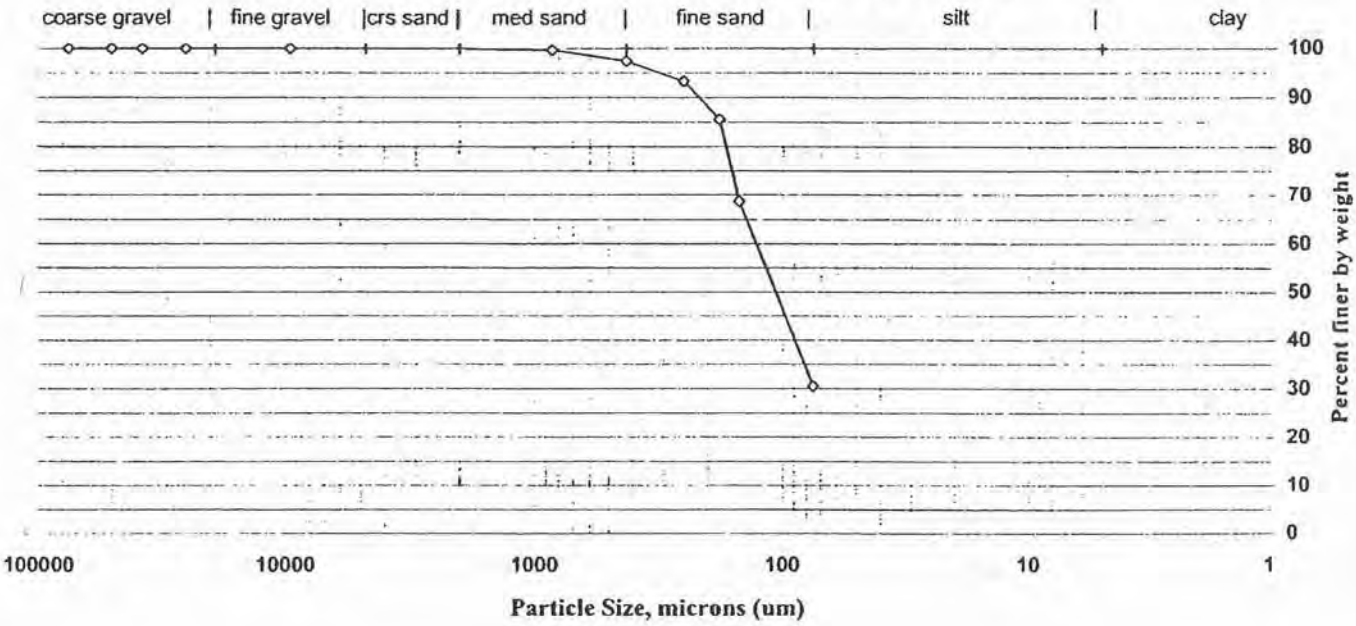
# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485717 **Sample ID:** S1-SD02

**Percent Solids:** 69.9% **Maximum Particle Size:** Med sand
**Specific Gravity:** 2.65 **Shape (> #10):** N/A
**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.7 | 0.3 |
| #40 | 425 | 97.4 | 2.3 |
| #60 | 250 | 93.3 | 4.1 |
| #80 | 180 | 85.6 | 7.7 |
| #100 | 150 | 68.7 | 16.9 |
| #200 | 75 | 30.5 | 38.2 |
| Hydrometer | 0.0 | 0.0 | 30.5 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0006

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

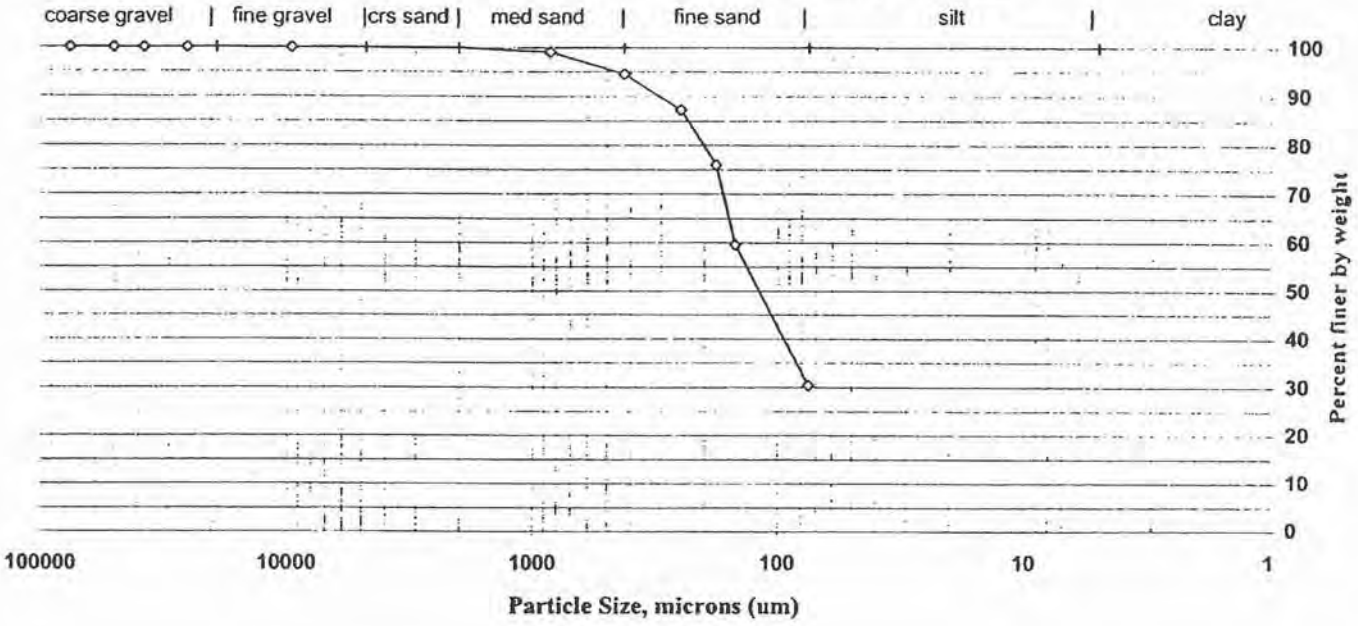
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485719 **Sample ID:** S1-SD03

**Percent Solids:** 69.1% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.1 | 0.9 |
| #40 | 425 | 94.6 | 4.5 |
| #60 | 250 | 87.3 | 7.3 |
| #80 | 180 | 76.0 | 11.3 |
| #100 | 150 | 59.7 | 16.4 |
| #200 | 75 | 30.4 | 29.2 |
| Hydrometer | 0.0 | 0.0 | 30.4 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0008

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

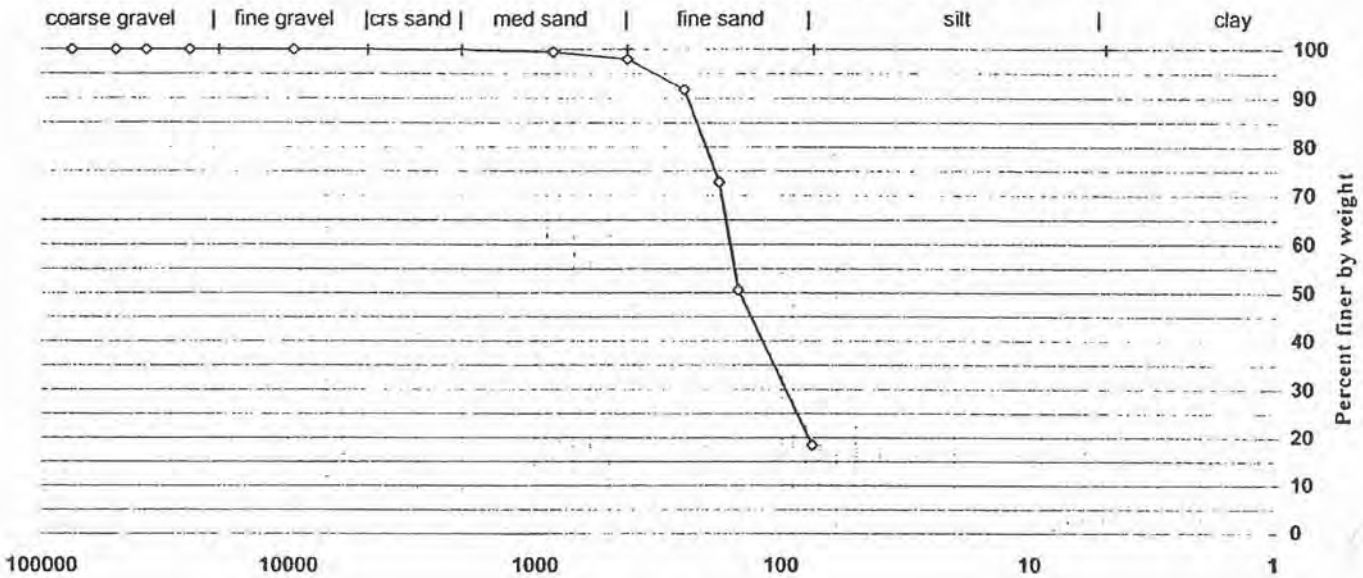
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485721 **Sample ID:** S2-SD02

**Percent Solids:** 69.7% **Maximum Particle Size:** Crs sand

**Specific Gravity:** 2.65 **Shape (> #10):** subangular

**Hardness (> #10):** hard




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 99.9 | 0.1 |
| #20 | 850 | 99.5 | 0.4 |
| #40 | 425 | 98.1 | 1.4 |
| #60 | 250 | 91.8 | 6.3 |
| #80 | 180 | 72.7 | 19.1 |
| #100 | 150 | 50.6 | 22.1 |
| #200 | 75 | 18.4 | 32.2 |
| Hydrometer | 0.0 | 0.0 | 18.4 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0010

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** 87708SO.xls::Report

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

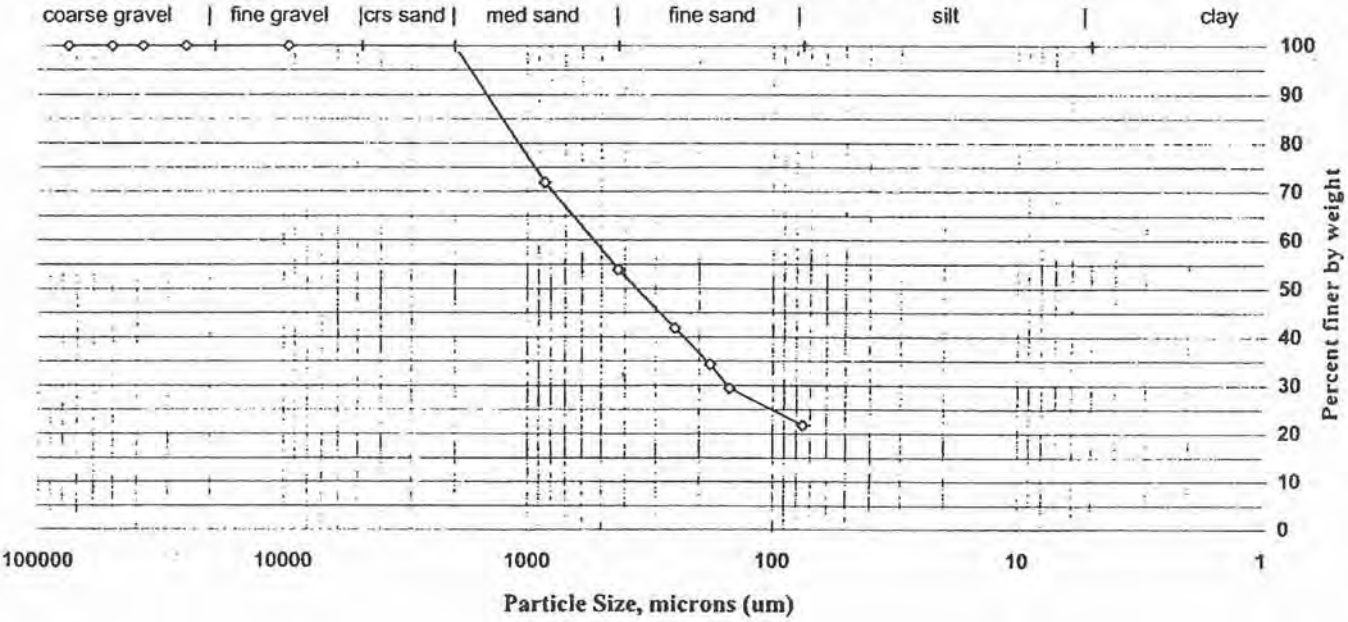
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485723 **Sample ID:** S1-SD06

**Percent Solids:** 12.9% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 71.9 | 28.1 |
| #40 | 425 | 53.9 | 18.0 |
| #60 | 250 | 41.8 | 12.2 |
| #80 | 180 | 34.3 | 7.4 |
| #100 | 150 | 29.4 | 5.0 |
| #200 | 75 | 21.8 | 7.6 |
| Hydrometer | 0.0 | 0.0 | 21.8 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0012

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: **D2217**

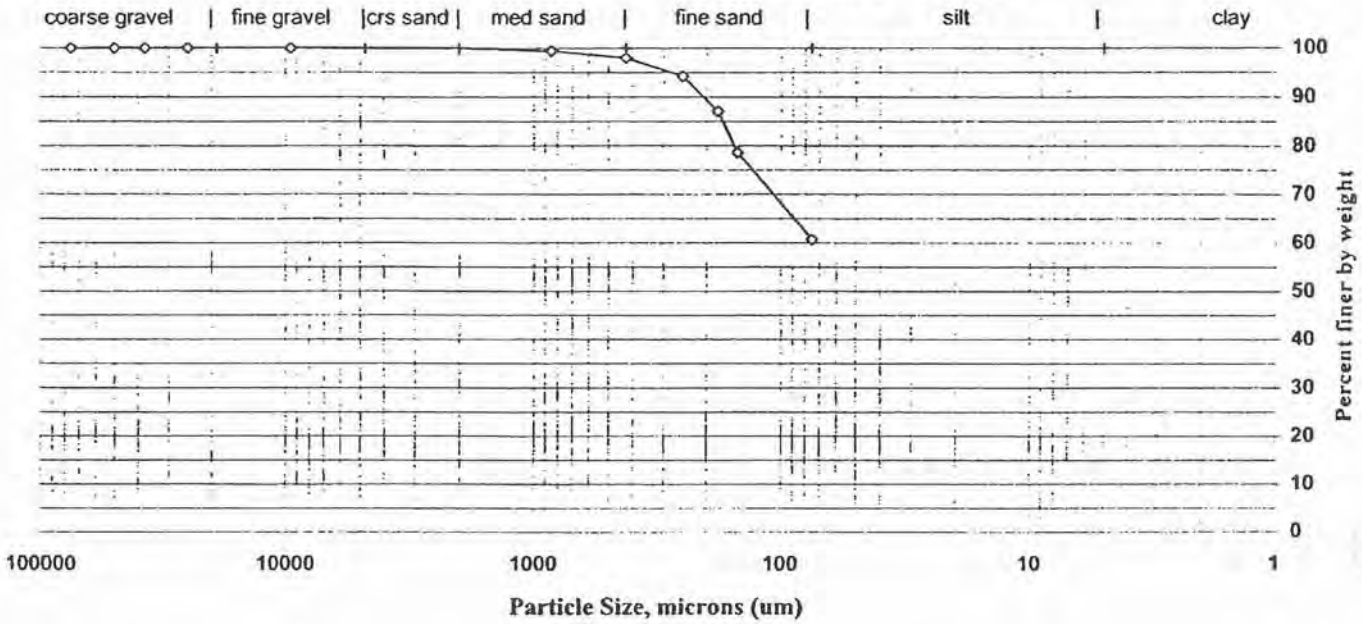
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 30-Apr-02 | **Start Date:** | 15-May-02 | **End Date:** | 22-May-02 |

**Lab ID:** 485725 **Sample ID:** S1-SD08

**Percent Solids:** 30.0% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 99.4 | 0.6 |
| #40 | 425 | 98.0 | 1.4 |
| #60 | 250 | 94.3 | 3.7 |
| #80 | 180 | 87.1 | 7.2 |
| #100 | 150 | 78.6 | 8.5 |
| #200 | 75 | 60.7 | 17.8 |
| Hydrometer | 0.0 | 0.0 | 60.7 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0014

**Submitted By:** _____ **Date:** 05/23/02

**STL - Burlington** **87708SO.xls::Report**

# Particle Size of Soils by ASTM D422

Sample preparation by: D2217

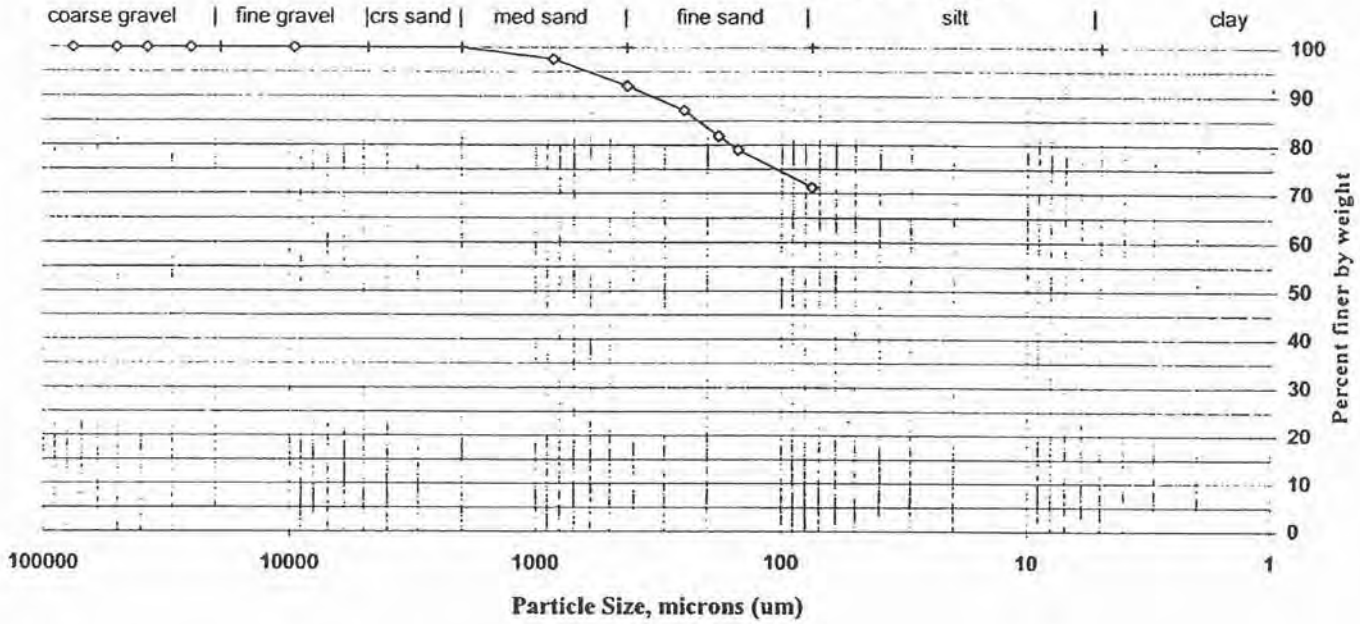
| | | | | | |
|---|---|---|---|---|---|
| **Client:** | KATANA | **Project No.:** | 22000 | **ETR(s) #:** | 87708 |
| **Client Code:** | KATANA | **Job No.:** | Cherry Pt. | **SDG(s):** | 87708 |
| **Date Received:** | 25-Apr-02 | **Start Date:** | 06-May-02 | **End Date:** | 08-May-02 |

**Lab ID:** 485727 **Sample ID:** S1-SD05-00

**Percent Solids:** 14.6% **Maximum Particle Size:** Med sand

**Specific Gravity:** 2.65 **Shape (> #10):** N/A

**Hardness (> #10):** N/A




| Sieve size | Particle size, um | Percent finer | Incremental percent |
|---|---|---|---|
| 3 inch | 75000 | 100.0 | 0.0 |
| 2 inch | 50000 | 100.0 | 0.0 |
| 1.5 inch | 37500 | 100.0 | 0.0 |
| 1 inch | 25000 | 100.0 | 0.0 |
| 3/4 inch | 19000 | 100.0 | 0.0 |
| 3/8 inch | 9500 | 100.0 | 0.0 |
| #4 | 4750 | 100.0 | 0.0 |
| #10 | 2000 | 100.0 | 0.0 |
| #20 | 850 | 97.6 | 2.4 |
| #40 | 425 | 92.1 | 5.5 |
| #60 | 250 | 87.2 | 5.0 |
| #80 | 180 | 81.9 | 5.3 |
| #100 | 150 | 79.0 | 2.8 |
| #200 | 75 | 71.3 | 7.7 |
| Hydrometer | 0.0 | 0.0 | 71.3 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| \| | 0.0 | 0.0 | 0.0 |
| V | 0.0 | 0.0 | 0.0 |

Dispersion of soil for hydrometer test by mechanical mixer with metal paddle, operated for at least one minute within a dispersion cup with 125 mls sodium hexametaphosphate

0006

**Submitted By:** _____ **Date:** 05/23/02 **STL - Burlington** **87643SO.xls::Report**

SEVERN
TRENT
SERVICES

Severn Trent Laboratories, Inc.

# SAMPLE PREPARATION

Partic .e Analysis
Sieve Data

Client: KATANA
Client Code: KATANA
SET: 87643

ETR(s): 8
SDG(s): 87708

Project: 22000
Case: 22000

Date Rec: 25-Apr-02
Start D. 6-May-02
End Date: 08-May-02

Dry prep = D421
Wet prep = D2217

Standard Values

| Sieve | Opening, um |
|---|---|
| 3 inch | 75000 |
| 2 inch | 50000 |
| 1.5 inch | 37500 |
| 1 inch | 25000 |
| 3/4 inch | 19000 |
| 3/8 inch | 9500 |
| #4 | 4750 |
| #10 | 2000 |
| #20 | 850 |
| #40 | 425 |
| #60 | 250 |
| #80 | 180 |
| #100 | 150 |
| #200 | 75 |

Sieve (tares)

| Size | Mass, g | |
|---|---|---|
| 3 inch | | |
| 2 inch | | |
| 1.5 inch | | |
| 1 inch | | |
| 3/4 inch | | |
| 3/8 inch | 447.98 | |
| #4 | 443.05 | |
| #10 | 437.44 | |
| #20 | 387.04 | c |
| #40 | 345.94 | c |
| #60 | 328.22 | c |
| #80 | 306.57 | c |
| #100 | 306.52 | c |
| #200 | 303.19 | c |

| Test | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Laboratory No | 485184 | 485185 | 485186 | 485187 | 485188 | 485189 | 485190 | 485191 | 485727 | 483717DP | | |
| Sample ID | S2-SS03-01 | S2-SS04-01 | S2-SS05-01 | S2-SS08-01 | S1-SS01-01 | S1-SS02-01 | S1-SS04-01 | S1-SS07-01 | S1-SD05-00 | JH-F3-UREP | | |
| Sample Prep Method | D2217 | D2217 | D2217 | D2217 | D2217 | D2217 | D2217 | D2217 | D2217 | D2217 | | |
| Pan, g | | | | | | | | | | | | |
| Pan/sample, g | 190.36 | 177.78 | 120.77 | 141.93 | 159.13 | 146.66 | 177.74 | 144.02 | 115.59 | 147.65 | | |
| Pan/dry sampl, g | | | | | | | | | | | | |
| **Non-soil material** | | | | | | | | | | | | |
| Description | grass,wood | grass,wood | grass,wood | wood | wood,shell | wood | wood | grass | wood,leaves | n/a | | |
| Pan, g | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | 3.68 | | | |
| Pan/dry sampl, g | 4.01 | 3.79 | 4.87 | 3.79 | 4.32 | 4.14 | 3.73 | 3.70 | 5.47 | | | |
| Non-soil, g | 0.33 | 0.11 | 1.19 | 0.11 | 0.64 | 0.46 | 0.05 | 0.02 | 1.79 | | | |
| **Hydroscopic Moisture correction factor (HMCF) for dry prep / Percent Solids for dry and wet prep** | | | | | | | | | | | | |
| Pan, g | 1.25 | 1.24 | 1.25 | 1.24 | 1.24 | 1.23 | 1.23 | 1.24 | 1.23 | 1.24 | | |
| Pan/sample, g | 26.26 | 29.81 | 36.62 | 35.19 | 30.44 | 32.02 | 28.42 | 26.27 | 36.82 | 42.19 | | |
| Pan/dry sampl, g | 24.41 | 27.21 | 31.53 | 31.60 | 27.52 | 29.40 | 24.42 | 23.69 | 6.43 | 27.66 | | |
| HMCF | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | | |
| Sample % Solids | 92.6% | 90.9% | 85.6% | 89.4% | 90.0% | 91.5% | 85.3% | 89.7% | 14.6% | 64.5% | | |
| Sample used, g | 175.95 | 161.49 | 102.20 | 126.81 | 142.58 | 133.72 | 151.54 | 129.15 | 15.10 | 95.26 | | |
| **Sieve + Sample Weights** | | | | | | | | | | | | |
| Size | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g | Mass, g |
| 3 inch | | | | | | | | | | | | |
| 2 inch | | | | | | | | | | | | |
| 1.5 inch | | | | | | | | | | | | |
| 1 inch | | | | | | | | | | | | |
| 3/4 inch | | | | | | | | | | | | |
| 3/8 inch | | 448.51 | | 449.30 | | 449.95 | | | | 449.58 | | |
| #4 | | 0.00 | 444.07 | 447.36 | | 444.85 | | | | 446.08 | | |
| #10 | 438.38 | 438.02 | 438.23 | 441.72 | 437.71 | 438.85 | 437.60 | 437.47 | 0.00 | 439.64 | | |
| #20 | 393.10 | 391.56 | 389.04 | 390.19 | 387.95 | 388.43 | 388.36 | 387.36 | 387.40 | 388.72 | | |
| #40 | 373.64 | 367.35 | 351.85 | 356.20 | 353.14 | 353.17 | 352.87 | 347.29 | 346.77 | 347.54 | | |
| #60 | 367.81 | 358.77 | 341.65 | 350.90 | 350.25 | 340.85 | 346.64 | 331.97 | 328.97 | 331.78 | | |
| #80 | 338.17 | 332.51 | 324.70 | 330.13 | 329.86 | 325.81 | 334.27 | 318.72 | 307.37 | 319.25 | | |
| #100 | 325.94 | 326.44 | 319.22 | 318.68 | 318.19 | 322.15 | 324.92 | 335.13 | 306.95 | 322.07 | | |
| #200 | 327.81 | 328.59 | 321.51 | 320.71 | 320.01 | 334.44 | 326.19 | 350.59 | 304.36 | 323.11 | | |
| **Maximum Particle size** | Crs sand | 19 mm | 9.5 mm | 19 mm | Crs sand | 19 mm | Crs sand | Crs sand | Med sand | 19 mm | | |
| **Description of >#10 particles** | | | | | | | | | | | | |
| Shape | subrounded | subrounded | subrounded | subangular | subrounded | subrounded | subrounded | subrounded | N/A | subrounded | N/A | N/A |
| Hardness | hard | hard | hard | hard | brittle | hard | hard | hard | N/A | hard | N/A | N/A |
| **Sample Mass Parameters** | | | | | | | | | | | | |
| Pan/sample, g | 190.36 | 177.78 | 120.77 | 141.93 | 159.13 | 146.66 | 177.74 | 144.02 | 115.59 | 147.65 | | |
| Mass removed, g | 1.27 | 1.22 | 3.00 | 10.02 | 0.91 | 5.64 | 0.21 | 0.05 | 1.79 | 6.83 | 0.00 | 0.00 |
| Sample mass, g | 175.01 | 160.38 | 100.39 | 116.90 | 142.31 | 128.54 | 151.38 | 129.12 | 15.10 | 88.43 | | |

**Particle Size Analysis**
**Hydrometer Data**

Set Number: 87643

Client: A,STLFLT,POMER
Client Code: A,STLFLT,POMER
Date Received: 25-Apr-02

Project No.: 2000,22034
Job No.: erry Pt.,Jaxport
Start Date: 0-Jan-00

ETR(s) #: 7708,87477,87753
SDG(s): 7643,87708
End Date: 0-Jan-00

Date and Analyst

| Percent Solids | Hydrometer | Mass removed | Small sieves | Large sieves | Non-soil |
|---|---|---|---|---|---|
| MRO 5/6/02<br>MRO 5/7/02 | MRO 5/6/02<br>(Sieve Only) | PC 5/6/02 | PC 5/6/02<br>MRO 5/7/02 | PC 5/6/02<br>MRO 5/7/02 | PC 5/6/02<br>MRO 5/7/02 |

| Test number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab number | 485184 | 485185 | 485186 | 485187 | 485188 | 485189 | 485190 | 485191 | 485727 | 483717DP | ~~485001~~ | |
| Time, min. (2) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (5) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (15) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (30) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (60) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (250) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (1440) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |

**"Sieve Only" Analysis Requested, hydrometer test not performed.**

Hydrometer used: N/A  Model #: N/A  Manufacturer: N/A  Hydrometer start time: N/A

Calibrations:

| L temp, C | L read | H Temp, C | H read |
|---|---|---|---|
| N/A | N/A | N/A | N/A |

Cal. Date: N/A  Hydrometer data entered: N/A

**Particle Size Analysis**
Hydrometer Data

| Set Number | Client: | Project No.: | ETR(s) #: |
|---|---|---|---|
| 87708 | KATANA | 22000 | 87708 |
| | Client Code: KATANA | Job No.: Cherry Pt. | SDG(s): 87708 |
| | Date Received: 30-Apr-02 | Start Date: 15-May-02 | End Date: 22-May-02 |

Date and Analyst

| Percent Solids | Hydrometer | Mass removed | Small sieves | Large sieves | Non-soil |
|---|---|---|---|---|---|
| CJC5/15/02 | MRD5/21/02 | MRD5/21/02 | MRD5/21/02 | MRD5/21/02 | MRD5/21/02 |
| CJC5/16/02 | (Sieve Only) | | DJP5/22/02 | DJP5/22/02 | DJP5/22/02 |

| Test number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab number | 485715 | 485716 | 485717 | 485718 | 485719 | 485720 | 485721 | 485722 | 485723 | 485724 | 485725 | 485726 |
| Time, min. (2) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (5) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (15) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (30) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (60) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (250) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |
| Time, min. (1440) | | | | | | | | | | | | |
| Reading | | | | | | | | | | | | |
| Temperature, C | | | | | | | | | | | | |

"Sieve Only" Analysis Requested, Hydrometer test not performed.

Hydrometer used: N/A Model #: N/A Manufacturer: N/A Hydrometer start time: N/A

Calibrations:

| L temp, C | L read | H Temp, C | H read |
|---|---|---|---|
| N/A | N/A | N/A | N/A |

Cal. Date: N/A Hydrometer data entered: N/A

# Balance Calibration Log

| | |
|---|---|
| **Type:** | Mettler PB3002-S |
| **Serial #:** | 1120173088 |
| **Asset #:** | n/a |
| **Location:** | Soils Lab |
| **Calibrate to:** | 2000g |

| Date | Time | Calibration Weight | Initials |
|---|---|---|---|
| 01-May-02 | 0630 | 2000.00 | MRD |
| 02-May-02 | 0700 | 2000.00 | CJC |
| 03-May-02 | 0751 | 2000.00 | DJP |
| 04-May-02 | | | |
| 05-May-02 | | | |
| 06-May-02 | 07:59 | 2000.00 | DJP |
| 07-May-02 | 0730 | 2000.00 | MRD |
| 08-May-02 | 0640 | 2000.00 | CJC |
| 09-May-02 | 6:45 | 2000.00 | CJC |
| 10-May-02 | 0700 | 2000.00 | CJC |
| 11-May-02 | | | |
| 12-May-02 | | | |
| 13-May-02 | 0715 | 2000.00 | CJC |
| 14-May-02 | 0700 | 2000.00 | CJC |
| 15-May-02 | 0710 | 2000.00 | CJC |
| 16-May-02 | 0813 | 2000.00 | DJP |

| Date | Time | Calibration Weight | Initials |
|---|---|---|---|
| 17-May-02 | 09:00 | 2000.00 | DJP |
| 18-May-02 | 0800 | 2000.00 | DJP |
| 19-May-02 | | | |
| 20-May-02 | 0700 | 2000.00 | CJC |
| 21-May-02 | 0715 | 2000.00 | CJC |
| 22-May-02 | 0730 | 2000.00 | DJP |
| 23-May-02 | 07:45 | 2000.00 | DJP |
| 24-May-02 | | | |
| 25-May-02 | | | |
| 26-May-02 | | | |
| 27-May-02 | | | |
| 28-May-02 | | | |
| 29-May-02 | | | |
| 30-May-02 | | | |
| 31-May-02 | | | |
| | | | |

# Oven #1 Quality Control Log

| | |
|---|---|
| **Type:** | Baxter/Scientific Products (H6620-13A) |
| **Serial #:** | 1090-0313 |
| **Asset #:** | N/A |
| **Location:** | Soils Lab |
| **Calibration Range:** | 110°C ±5 |

| Date | Temperature | Oven Setting | Initials |
|---|---|---|---|
| 01-May-02 | 115° | 5.2 | MJD |
| 02-May-02 | 115° | 5.2 | MJD |
| 03-May-02 | 115° | 5.2 | DJP |
| 04-May-02 | | | |
| 05-May-02 | | | |
| 06-May-02 | 115° | 5.2 | DJP |
| 07-May-02 | 115° | 5.2 | MJD |
| 08-May-02 | 100° | 5.1 | CJC |
| 09-May-02 | ~~115°~~ 110° | 5.1 | CJC |
| 10-May-02 | 110° | 5.1 | CJC |
| | | | |
| | | | |
| 13-May-02 | 108° | 5.1 | CJC |
| 14-May-02 | 113° | 5.1 | CJC |
| 15-May-02 | 109° | 5.1 | CJC |
| 16-May-02 | 108° | 5.1 | DJP |

| Date | Temperature | Oven Setting | Initials |
|---|---|---|---|
| 17-May-02 | 105° | 5.1 | DJP |
| 18-May-02 | | | |
| 19-May-02 | | | |
| 20-May-02 | 106° | 5.1 | CJC |
| 21-May-02 | 110° | 5.1 | CJC |
| 22-May-02 | 110° | 5.1 | DJP |
| 23-May-02 | 110° | 5.1 | DJP |
| 24-May-02 | | | |
| 25-May-02 | | | |
| 26-May-02 | | | |
| 27-May-02 | | | |
| 28-May-02 | | | |
| 29-May-02 | | | |
| 30-May-02 | | | |
| 31-May-02 | | | |
| | | | |

# Sodium Hexametaphosphate
# Quality Control Log

| Date | Amount | Concentration | Mfg./Supplier | Lot # | Exp. Date* | Initials |
|---|---|---|---|---|---|---|
| 8-7-01 | 6L | 120g / 3L H20 | EM Science | 40124021 | 5-16-01 | JEK |
| 8-15-01 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 8-15-02 | MRD |
| 8-27-01 | 6L | 120g / 3L H20 | EM SCI. | 40124021 | 8-27-02 | MRD |
| 9-6-01 | 3L | 120g / 3L H20 | EM SCI. | 40124021 | 8-15-02 | MRD |
| 9-13-01 | 3L | 120g / 3L H20 | EM SCE | 40124021 | 8-15-02 | MRD |
| 9-25-01 | 6L | 120g / 3L H20 | EM SCIENCE | 40124021 | 8-15-02 | MRD |
| 10-11-01 | 6L | 120g / 3L H20 | EM Science | 40124021 | 8-15-0 | [illegible] |
| 11-5-01 | 9L | 120g / 3L H20 | EM SCIENCE | 40124021 | 8-15-02 | MRD |
| 11/15/01 | 9L | 120g / 3L H20 | EM SCIENCE | 40124021 | 8-15-02 | MRD |
| 12-3-01 | 3L | 120g / 3L H20 | EM Science | 40124021 | 8-15-02 | MRD |
| 1/10/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 1/21/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 1/30/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 2/6/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 3/11/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 3/13/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 3/25/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 3/26/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 4/9/02 | 6L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 4/11/02 | 6L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 4/12/02 | ~~3L~~ 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | [illegible] |
| 4/13/02 | 3L | 120g / 3L H20 | EM SCIENCE | 40124021 | 12/3/02 | DJP |
| 4/22/02 | 6L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | MRD |
| 4/25/02 | 3L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | [illegible] |
| 4/29/02 | 3L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | DJP |
| 5/6/02 | 9L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | MRD |
| 5/9/02 | 3L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | DJP |
| 5/17/02 | 3L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | DJP |
| 5/21/02 | 3L | 120g / 3L H20 | EM SCIENCE | 41285146 | 4/17/03 | DJP |
| | | 120g / 3L H20 | | | | |
| | | 120g / 3L H20 | | | | |

Note: * No expiration date noted on container. Date is one year from opening.

00028

# Appendix D
# Data Validation Report

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP008 |
| Date: | June 24, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 24 - 25, 2002 |
| Number of Samples: | 14 Aqueous Sample(s) with 2 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles, Total RCRA Metals and Dissolved RCRA Metals |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Simpson
Paul B. Humburg, President

6-24-02
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

**SDG# CP008**

**Samples and Fractions Reviewed**

Sample Identifications — Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | | D MET | |
|---|---|---|---|---|---|---|---|---|---|
| OU5-S1-TW07 | WATER | X | | X | | X | | X | |
| OU5-S1-TW07 MS | WATER | | | | | X | | | |
| OU5-S1-TW07 MSD | WATER | | | | | X | | | |
| OU5-S1-TW10 | WATER | X | | X | | X | | X | |
| OU5-S1-TW10 MS | WATER | | | | | X | | | |
| OU5-S1-TW10 MSD | WATER | | | | | X | | | |
| OU5-S1-TW04 | WATER | X | | X | | X | | | |
| OU5-S1-TW03 | WATER | X | | X | | X | | | |
| OU5-S1-TW05 | WATER | X | | X | | X | | | |
| OU5-S1-TW02 | WATER | X | | X | | X | | | |
| OU5-S2-TW06 | WATER | X | | X | | X | | | |
| OU5-S1-TW08 | WATER | X | | X | | X | | | |
| OU5-S1-TW09 | WATER | X | | X | | X | | | |
| OU5-S2-TW09 | WATER | X | | X | | X | | | |
| OU5-S2-TW02 | WATER | X | | X | | X | | | |
| OU5-S1-TW11 | WATER | X | | X | | X | | | |
| OU5-S1-TW06 | WATER | X | | X | | X | | | |
| OU5-S1-TW09-P | WATER | X | | X | | X | | | |
| Total Billable Samples (Water/Soil) | | 14 | 0 | 14 | 0 | 18 | 0 | 2 | 0 |

VOA= Volatiles
SVOA= Semivolatiles
MET= Total RCRA Metals
D MET= Dissolved RCRA Metals

# DATA ASSESSMENT NARRATIVES

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

**General**

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

**SDG # CP008**

A validation was performed on the Volatile Data from SDG #CP008. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|

No qualifications required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# DATA ASSESSMENT NARRATIVE

## SEMIVOLATILES

**General**

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C for Semivolatiles; the National Functional Guidelines for Organic Data Validation, 10/99; and NEESA Level D requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

**SDG #CP008**

A validation was performed on the SVOA Data from SDG CP008. The data was evaluated based on the following parameters:

| | | |
|---|---|---|
| * | • | Data Completeness |
| | • | Holding Times |
| * | • | GC/MS Tuning |
| * | • | Calibration |
| | • | Blanks |
| | • | Surrogate Recoveries |
| | • | Matrix Spike/Matrix Spike Duplicates |
| * | • | Field Duplicates |
| * | • | Internal Standard Performance |
| * | • | Compound Identification |
| * | • | Compound Quantitation |

* - All criteria were met for this parameter.

**Holding Times**

The following sample was re-extracted thirteen days outside the extraction holding time of seven days for water samples. All reported positive and non-detect results are qualified as estimated, J/UJ.

OU5-S2-TW06RE

**Blanks**

The field blank associated with the field samples in this SDG exhibited contamination for which qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

| Associated blank | Compound | Concentration | Action Level |
|---|---|---|---|
| OU5-FB0422-02 | bis(2-ethylhexyl)phthalate | 86 ug/L | 860 ug/L |

| Samples | Compound | Qualifications |
|---|---|---|
| OU5-S1-TW10<br>OU5-S1-TW04<br>OU5-S1-TW09 | bis(2-ethylhexyl)phthalate | U |

**Surrogate Recoveries**

The following sample exhibited surrogate recoveries less than 10% for two of the three acid fraction surrogates. Therefore, all acid fraction compounds in the sample are rejected, R, in favor of the results reported from the RE analysis of the sample. All other compounds in the RE analysis (Base/Neutral compounds) are rejected, R, in favor of the results reported from the original analysis of the sample.

| | |
|---|---|
| OU5-S2-TW06 | Acid Fraction compounds |
| OU5-S2-TW06RE | Base/Neutral Fraction compounds |

**Matrix Spike/Matrix Spike Duplicates**

There was no Matrix Spike/Matrix Spike Duplicate pair submitted in this SDG. However, both laboratory control sample pairs extracted with the samples in this SDG exhibited recoveries below the QC limits for one compound. Therefore, in the professional judgement of the data validator, the reported positive and/or non-detect results for the noted compound are qualified as estimated, J/UJ, in all samples.

| | |
|---|---|
| All Samples | hexachlorocyclopentadiene |

**System Performance and Overall Assessment**

The data, as reported, required qualifications.

## GLOSSARY OF DATA QUALIFIERS

### QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

### BLANK QUALIFICATION CODES

| | |
|---|---|
| U - | The sample result is greater than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Cross out the "B" flag and qualify the sample result with a "U". |
| RL - | The sample result is less than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Reject the sample result, cross out the "B" flag, and report the RL. |
| No Action - | The sample result is greater than the RL and greater than five times (5X) (10 times for common laboratory contaminants) the blank value. |

RL - indicates reporting limit

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S2-TW06RE | All compounds | +/- | J/UJ | HT |
| OU5-S1-TW10<br>OU5-S1-TW04<br>OU5-S1-TW09 | bis(2-ethylhexyl)phthalate | + | U | BL |
| OU5-S2-TW06 | Acid Fraction compounds | +/- | R | SSL |
| OU5-S2-TW06RE | Base/Neutral Fraction compounds | +/- | R | RE |
| All Samples | hexachlorocyclopentadiene | +/- | J/UJ | BSL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP008

A validation was performed on the Metals Data from SDG CP008. The data was evaluated based on the following parameters.

| | | |
|---|---|---|
| * | ● | Data Completeness |
| * | ● | Holding Times |
| * | ● | Calibrations |
| | ● | Blanks |
| * | ● | Interferences |
| * | ● | Matrix Spike Recovery |
| * | ● | Matrix Duplicates |
| * | ● | Field Duplicates |
| * | ● | Laboratory Control Samples |
| * | ● | Serial Dilutions |

* - All criteria were met for this parameter.

## Preparation and Field Blanks

1. The preparation and calibration blanks exhibited contamination for the following elements.

| Elements | Conc. | Samples affected |
|---|---|---|
| Mercury | 0.048 ug/l | all water samples below 0.25 ug/l |

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect, "U". (BL)

2. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all water samples below 0.25 ug/l | Hg. | + | U | BL |
| 2.all "B" results | all analytes | B | J | OT |

# Data Validation Report

CH2M HILL
Cherry Point
SDG #: CP003 & CP008

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP003 |
| Date: | June 24, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 22, 2002 |
| Number of Samples: | 20 Non-Aqueous Sample(s) with 1 MS/MSD(s)<br>3 Aqueous Sample(s) with 0 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles, Total RCRA Metals and Total Organic Carbon |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Sempson
Paul B. Hamburg, President

6-24-02
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

**SDG# CP003**

**Samples and Fractions Reviewed**

Sample Identifications — Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | | TOC | |
|---|---|---|---|---|---|---|---|---|---|
| OU5-TB042202 | WATER | X | | | | | | | |
| OU5-EB042202 | WATER | X | | X | | X | | X | |
| OU5-FB042202 | WATER | X | | X | | X | | X | |
| OU5-S1-SS01-01 | SOIL | | X | | | | | | |
| OU5-S1-SS02-01 | SOIL | | X | | | | | | |
| OU5-S1-SS03-01 | SOIL | | X | | | | | | |
| OU5-S1-SS04-01 | SOIL | | X | | | | | | |
| OU5-S1-SS05-01 | SOIL | | X | | | | | | |
| OU5-S1-SS06-01 | SOIL | | X | | | | | | |
| OU5-S1-SS07-01 | SOIL | | X | | | | | | |
| OU5-S1-SS08-01 | SOIL | | X | | | | | | |
| OU5-S2-SB05-04 | SOIL | | X | | | | | | |
| OU5-S2-SB05-04 MS | SOIL | | X | | | | | | |
| OU5-S2-SB05-04 MSD | SOIL | | X | | | | | | |
| OU5-S2-SS01-01 | SOIL | | X | | | | | | |
| OU5-S2-SS02-01 | SOIL | | X | | | | | | |
| OU5-S2-SS03-01 | SOIL | | X | | | | | | |
| OU5-S2-SS04-01 | SOIL | | X | | | | | | |
| OU5-S2-SS06-01 | SOIL | | X | | | | | | |
| OU5-S2-SS07-01 | SOIL | | X | | | | | | |
| OU5-S2-SS08-01 | SOIL | | X | | | | | | |
| OU5-S1-SS04-P-01 | SOIL | | X | | | | | | |
| OU5-S1-SS07-P-01 | SOIL | | X | | | | | | |
| OU5-S2-SS04-P-01 | SOIL | | X | | | | | | |
| OU5-S2-SB05-04* | SOIL | | X | | | | | | |
| Total Billable Samples (Water/Soil) | | 3 | 22 | 2 | 0 | 2 | 0 | 2 | 0 |

VOA= Volatiles
SVOA= Semivolatiles
MET= Total RCRA Metals
TOC= Total Organic Carbon

* Lab samples WS0975-13 and WS0975-20 have the same client ID number (OU5-S2-SB05-04).

# DATA ASSESSMENT NARRATIVES

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP003

A validation was performed on the Volatile Data from SDG #CP003. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
  Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
  Matrix Spike/Matrix Spike duplicate
  Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The initial calibration, analyzed on 05-01-02, contained compounds with %RSDs greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detect results as rejected (R). *(qualifier code: ICB)*

| | |
|---|---|
| OU5-TB042202 | methylene chloride |
| OU5-EB042202 | |
| OU5-FB042202 | |

The continuing calibration, F5925, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-TB042202 | methylene chloride |
| OU5-EB042202 | |
| OU5-FB042202 | |

The initial calibration, analyzed on 04-23-02, contained compounds with %RSDs greater than 15% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: ICB)*

| | |
|---|---|
| OU5-S2-SS07-01 | 2-butanone |

The continuing calibration, M5152, contained compounds with %Ds greater 20% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-S2-SS07-01 | 2-butanone |

The continuing calibration, M5172, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-S1-SS05-01 | dichlorodifluoromethane |

**Internal Standards**

The following samples exhibited low internal standard area recovery for 1,4-dichlorobenzene. Qualify all compound results associated with the standard as estimated (J/UJ). *(qualifier code: ISL)*

OU5-S2-SB05-04 (WS0975-13)
OU5-S1-SS04-01
OU5-S2-SS08-01RA
OU5-S1-SS04-P-01
OU5-S2-SB05-04 (WS0975-20)

**Blank**

The blank(s) associated with samples in this SDG exhibited contamination. Qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

| Associated blank | Compound | Concentration | Action Level |
|---|---|---|---|
| VBLKM24A | acetone | 3J ug/Kg | 30 ug/Kg |
| | methylene chloride | 4J | 40 |
| VBLKM25A | acetone | 3J ug/Kg | 30 ug/Kg |
| | methylene chloride | 6J | 60 |
| VBLKM26A | acetone | 3J ug/Kg | 30 ug/Kg |
| | methylene chloride | 4J | 40 |
| VBLKM27B | acetone | 3J ug/Kg | 30 ug/Kg |
| | methylene chloride | 4J | 40 |

**Blanks (cont.)**

| Samples | Compound | Qualification |
|---|---|---|
| OU5-S1-SS03-01 | acetone | CRQL *(qualifier code: BL)* |
| OU5-S2-SS01-01 | | |
| OU5-S2-SS03-01 | | |
| OU5-S2-SS04-01 | | |
| OU5-S2-SB05-04 (WS0975-13) | | |
| OU5-S1-SS05-01 | | |
| OU5-S2-SS08-01RA | | |
| OU5-S2-SS04-P-01 | | |
| OU5-S1-SS04-01 | acetone | U *(qualifier code: BL)* |
| OU5-S1-SS07-01 | | |
| OU5-S1-SS08-01 | | |
| OU5-S2-SS07-01 | | |
| OU5-S1-SS07-P-01 | | |
| OU5-S2-SB05-04 (WS0975-20) | | |
| OU5-S1-SS03-01 | methylene chloride | CRQL *(qualifier code: BL)* |
| OU5-S1-SS04-01 | | |
| OU5-S2-SS06-01 | | |
| OU5-S1-SS05-01 | | |
| OU5-S1-SS01-01 | methylene chloride | U *(qualifier code: BL)* |
| OU5-S1-SS02-01 | | |
| OU5-S1-SS06-01 | | |
| OU5-S1-SS07-01 | | |
| OU5-S1-SS08-01 | | |
| OU5-S2-SS01-01 | | |
| OU5-S2-SS02-01 | | |
| OU5-S2-SS03-01 | | |
| OU5-S2-SS04-01 | | |
| OU5-S2-SB05-04 (WS0975-13) | | |
| OU5-S2-SS07-01 | | |
| OU5-S2-SS08-01RA | | |
| OU5-S1-SS04-P-01 | | |
| OU5-S1-SS07-P-01 | | |
| OU5-S2-SS04-P-01 | | |
| OU5-S2-SB05-04 (WS0975-20) | | |

**Matrix Spike/Matrix Spike duplicate**

The matrix spike and matrix spike duplicate associated with sample OU5-S2-SB05-04 (WS0975-13) exhibited several compounds with low recoveries in both the spike and the spike duplicate. Qualify the compounds listed below as estimated (J/UJ). *(qualifier code: MSL)*

acetone
4-methyl-2-pentanone
2-hexanone
2-butanone
1,4-dichlorobenzene
1,3-dichlorobenzene
bromomethane
1,2-dichlorobenzene
1,2-dibromomethane
1,2-dibromo-3-chloropropane
1,2,4-trichlorobenzene
1,1,2,2-tetrachloroethane
trans-1,3-dichloropropane
styrene
methylene chloride
bromoform
methyl acetate
dichlorodifluoromethane
dibromochloromethane
cis-1,3-dichloropropane
chlorobenzene

**Field Duplicates**

Sample OU5-S1-SS04-01 and duplicate sample OU5-S1-SS04-P-01 did not exhibit comparable results for trichlorofluoromethane (57% RPD), acetone (158% RPD) and 2-butanone (200% RPD). Qualify these compound results as estimated (J/UJ). *(qualifier code: FD)*

Sample OU5-S1-SS07-01 and duplicate sample OU5-S1-SS07-P-01 did not exhibit comparable results for trichlorofluoromethane (657% RPD). Qualify these compound results as estimated (J). *(qualifier code: FD)*

**Compound Identification/Quantitation**

Do not use samples OU5-S1-SS04-01RA, OU5-S2-SS08-01, OU5-S1-SS06-01RA, and OU5-S2-SB05-04RA due to non compliant internal standards and/or surrogate recoveries. *(qualifier code: RE)*

**System Performance and Overall Assessment**

The data as presented requires qualifications. Please note that there were two samples with the same client ID and collection time (OU5-S2-SB05-04 collected at 8:43) but the samples had different laboratory IDs. The data validator has used the client IDs for these samples in this report with the laboratory ID in parentheses to be able to distinguish the samples {For example: OU5-S2-SB05-04 (WS0975-13) and OU5-S2-SB05-04 (WS0975-20)}. Correspondence between HESI, the laboratory and the client have been included in this report concerning these samples. There is an e-mail, included in this report, from the client to the laboratory that states the client changed the sample ID and collection time of sample OU5-S2-SS05-01 collection time 8:55 to OU5-S2-SB05-04 collected at 8:43.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-TB042202<br>OU5-EB042202<br>OU5-FB042202 | methylene chloride | +/- | J/R | ICB |
| OU5-TB042202<br>OU5-EB042202<br>OU5-FB042202 | methylene chloride | +/- | J/UJ | CCH |
| OU5-S2-SS07-01 | 2-butanone | + | J | ICB |
| OU5-S2-SS07-01 | 2-butanone | + | J | CCH |
| OU5-S1-SS05-01 | dichlorodifluoromethane | +/- | J/UJ | CCH |
| OU5-S2-SB05-04<br>(WS0975-13)<br>OU5-S1-SS04-01<br>OU5-S2-SS08-01RA<br>OU5-S1-SS04-P-01<br>OU5-S2-SB05-04<br>(WS0975-20) | *All Associated Compounds*<br>1,4-dichlorobenzene | +/- | J/UJ | ISL |
| OU5-S1-SS03-01<br>OU5-S2-SS01-01<br>OU5-S2-SS03-01<br>OU5-S2-SS04-01<br>OU5-S2-SB05-04<br>(WS0975-13)<br>OU5-S1-SS05-01<br>OU5-S2-SS08-01RA<br>OU5-S2-SS04-P-01 | acetone | + | CRQL | BL |
| OU5-S1-SS04-01<br>OU5-S1-SS07-01<br>OU5-S1-SS08-01<br>OU5-S2-SS07-01<br>OU5-S1-SS07-P-01<br>OU5-S2-SB05-04<br>(WS0975-20) | acetone | + | U | BL |

# SUMMARY OF DATA QUALIFICATIONS



| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S1-SS03-01<br>OU5-S1-SS04-01<br>OU5-S2-SS06-01<br>OU5-S1-SS05-01 | methylene chloride | + | CRQL | BL |
| OU5-S1-SS01-01<br>OU5-S1-SS02-01<br>OU5-S1-SS06-01<br>OU5-S1-SS07-01<br>OU5-S1-SS08-01<br>OU5-S2-SS01-01<br>OU5-S2-SS02-01<br>OU5-S2-SS03-01<br>OU5-S2-SS04-01<br>OU5-S2-SB05-04<br>(WS0975-13)<br>OU5-S2-SS07-01<br>OU5-S2-SS08-01RA<br>OU5-S1-SS04-P-01<br>OU5-S1-SS07-P-01<br>OU5-S2-SS04-P-01<br>OU5-S2-SB05-04<br>(WS0975-20) | methylene chloride | + | U | BL |
| OU5-S2-SB05-04<br>(WS0975-13) | acetone<br>4-methyl-2-pentanone<br>2-hexanone<br>2-butanone<br>1,4-dichlorobenzene<br>1,3-dichlorobenzene<br>bromomethane<br>1,2-dichlorobenzene<br>1,2-dibromomethane<br>1,2-dibromo-3-chloropropane<br>1,2,4-trichlorobenzene<br>1,1,2,2-tetrachloroethane<br>trans-1,3-dichloropropane<br>styrene<br>methylene chloride | +/- | J/UJ | MSL |

# SUMMARY OF DATA QUALIFICATIONS



| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S2-SB05-04 (WS0975-13) | dichlorodifluoromethane<br>dibromochloromethane<br>cis-1,3-dichloropropane<br>chlorobenzene<br>bromoform<br>methyl acetate | +/- | J/UJ | MSL |
| OU5-S1-SS04-01<br>OU5-S1-SS04-P-01 | trichlorofluoromethane<br>acetone<br>2-butanone | +/- | J/UJ | FD |
| OU5-S1-SS07-01<br>OU5-S1-SS07-P-01 | trichlorofluoromethane | + | J | FD |
| OU5-S1-SS04-01RA<br>OU5-S2-SS08-01<br>OU5-S1-SS06-01RA<br>OU5-S2-SB05-04RA | all results | +/- | R | RE |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE

## SEMIVOLATILES

**General**

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C for Semivolatiles; the National Functional Guidelines for Organic Data Validation, 10/99; and NEESA Level D requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

**SDG #CP003**

A validation was performed on the SVOA Data from SDG CP003. The data was evaluated based on the following parameters:

| | | |
|---|---|---|
| * | • | Data Completeness |
| * | • | Holding Times |
| * | • | GC/MS Tuning |
| | • | Calibration |
| * | • | Blanks |
| * | • | Surrogate Recoveries |
| * | • | Matrix Spike/Matrix Spike Duplicates |
| * | • | Field Duplicates |
| * | • | Internal Standard Performance |
| * | • | Compound Identification |
| * | • | Compound Quantitation |

* - All criteria were met for this parameter.

**Calibrations**

The continuing calibration standard U1604 exhibited one compound with a RRF less than 0.05. For the following samples and non-compliant compound, the reported non-detect results are rejected, R.

| | |
|---|---|
| OU5-EB042202 | 3,3-dichlorobenzidine |
| OU5-FB042202 | |

**System Performance and Overall Assessment**

The data, as reported, required qualifications.

## GLOSSARY OF DATA QUALIFIERS

### QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

### BLANK QUALIFICATION CODES

U - The sample result is greater than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

RL - The sample result is less than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Reject the sample result, cross out the "B" flag, and report the RL.

No Action - The sample result is greater than the RL and greater than five times (5X) (10 times for common laboratory contaminants) the blank value.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-EB042202<br>OU5-FB042202 | 3,3-dichlorobenzidine | - | R | CCL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS AND TOC

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP003

A validation was performed on the Metals and TOC Data from SDG CP003. The data was evaluated based on the following parameters.

| | | |
|---|---|---|
| * | ● | Data Completeness |
| * | ● | Holding Times |
| * | ● | Calibrations |
| | ● | Blanks |
| * | ● | Interferences |
| * | ● | Matrix Spike Recovery |
| * | ● | Matrix Duplicates |
| * | ● | Field Duplicates |
| * | ● | Laboratory Control Samples |
| * | ● | Serial Dilutions |

* - All criteria were met for this parameter.

## Preparation and Field Blanks

1. The preparation and calibration blanks exhibited contamination for the following elements.

| Elements | Conc. | Samples affected |
|---|---|---|
| Chromium | 1.35 ug/l | no impact |

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as estimated, "B". (BL)

2. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 2.all "B" results | all analytes | B | J | OT |

# Data Validation Report

CH2M HILL
Cherry Point
SDG #: CP007

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP007 |
| Date: | July 16, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 23 - 25, 2002 |
| Number of Samples: | 15 Aqueous Sample(s) with 1 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles, RCRA Metals, Dissolved RCRA Metals, Hardness, Total Organic Carbon and Dissolved Organic Carbon |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

for Craig G. Swyson
Paul B. Humburg, President

7-16-02
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

**SDG# CP007**

**Samples and Fractions Reviewed**

Sample Identifications — Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | | D MET | | HARD | | TOC | | DOC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OU5-S2-SW04 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-EB042302 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S1-SW02 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S1-SW03 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S1-SW05 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S1-SW06 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S1-SW07 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S1-SW07 MS | WATER | | | X | | X | | X | | X | | X | | | |
| OU5-S1-SW07 MSD | WATER | | | X | | X | | X | | X | | | | | |
| OU5-S1-SW08 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-TB042602 | WATER | X | | | | | | | | | | | | | |
| OU5-S2-SW04-P | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S2-SW03 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S2-SW01 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S2-SW02 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S2-SW05 | WATER | X | | X | | X | | X | | X | | X | | X | |
| OU5-S2-SW05-P | WATER | X | | X | | X | | X | | X | | X | | X | |
| Total Billable Samples (Water/Soil) | | 15 | 0 | 16 | 0 | 16 | 0 | 16 | 0 | 16 | 0 | 15 | 0 | 14 | 0 |

VOA= Volatiles
SVOA= Semivolatiles
MET= RCRA Metals
D MET= Dissolved RCRA Metals
HARD= Hardness
TOC= Total Organic Carbon
DOC= Dissolved Organic Carbon

# DATA ASSESSMENT NARRATIVES

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

**General**

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

**SDG # CP007**

A validation was performed on the Volatile Data from SDG #CP007. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The continuing calibration, Z3057, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-S2-SW04-P | methylene chloride |
| OU5-S2-SW03 | |
| OU5-S2-SW01 | |
| OU5-S2-SW02 | |
| OU5-S2-SW05 | |
| OU5-S2-SW05-P | |

The continuing calibration, S2249, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-EB042302 | chloromethane |
| OU5-S1-SW02 | |
| OU5-S1-SW03 | |
| OU5-S1-SW05 | |
| OU5-S1-SW06 | |
| OU5-S1-SW07 | |
| OU5-S1-SW08 | |
| OU5-TB042602 | |

**Blank**

The blank(s) associated with samples in this SDG exhibited contamination. Qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

**Blank (cont.)**

| Associated blank | Compound | Concentration | Action Level |
|---|---|---|---|
| VBLKZ02B | methylene chloride | 4 ug/L | 40 ug/L |
| OU5-TB042302 | 1,1-dichloroethene | 0.8J ug/L | 4 ug/L |

| Samples | Compound | Qualification |
|---|---|---|
| OU5-S2-SW04-P<br>OU5-S2-SW03<br>OU5-S2-SW01<br>OU5-S2-SW02<br>OU5-S2-SW05<br>OU5-S2-SW05-P | methylene chloride | U *(qualifier code: BL)* |
| OU5-EB042302 | 1,1-dichloroethene | U *(qualifier code: BL)* |

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

| | |
|---|---|
| CRQL = | The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported. |
| U = | The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported. |
| No Action = | The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers. |

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S2-SW04-P | methylene chloride | +/- | J/UJ | CCH |
| OU5-S2-SW03 | | | | |
| OU5-S2-SW01 | | | | |
| OU5-S2-SW02 | | | | |
| OU5-S2-SW05 | | | | |
| OU5-S2-SW05-P | | | | |
| OU5-EB042302 | chloromethane | +/- | J/UJ | CCH |
| OU5-S1-SW02 | | | | |
| OU5-S1-SW03 | | | | |
| OU5-S1-SW05 | | | | |
| OU5-S1-SW06 | | | | |
| OU5-S1-SW07 | | | | |
| OU5-S1-SW08 | | | | |
| OU5-TB042602 | | | | |
| OU5-S2-SW04-P | methylene chloride | + | U | BL |
| OU5-S2-SW03 | | | | |
| OU5-S2-SW01 | | | | |
| OU5-S2-SW02 | | | | |
| OU5-S2-SW05 | | | | |
| OU5-S2-SW05-P | | | | |
| OU5-EB042302 | 1,1-dichloroethene | + | U | BL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT AND NARRATIVE

# SEMIVOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP007

A validation was performed on the Semivolatile Data from SDG #CP007. The data was evaluated based on the following parameters.

* Data Completeness
  Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
* Blanks
  Surrogate Recoveries
* Laboratory Control Samples
  Matrix Spike/Matrix Spike duplicate
* Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

**Holding Times**

Sample OU5-S1-SW08 RE was exceeded the seven (7) day holding extraction holding time for waters by seven (7) days. Qualify all results as estimated (J/UJ). *(qualifier code: HT)*

**Calibrations**

The continuing calibration, U1604, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-S2-SW04 | 3,3'-dichlorobenzidine |
| OU5-S2-SW04-P | |
| OU5-S2-SW03 | |
| OU5-S2-SW01 | |
| OU5-S2-SW02 | |
| OU5-S2-SW05 | |
| OU5-S2-SW05-P | |
| OU5-S1-SW05 | |
| OU5-EB042302 | |

**Surrogates**

Sample OU5-EB042302 exhibited low surrogate recoveries for nitrobenzene-d5 and 2-fluorobiphenyl. Qualify all base/neutral compounds as estimated (J/UJ). *(qualifier code:SSL)*

**Matrix Spike and Matrix Spike Duplicate**

The matrix spike and matrix spike duplicate, associated with sample OU5-S1-SW07, both exhibited low recoveries for hexachloropentadiene. Qualify the non detected result as estimated (UJ). *(qualifier code: MSL)*

**Compound Identification/Quantitation**

Do not use sample OU5-S1-SW08, in favor of the re-analysis, due to non compliant surrogate recoveries. *(qualifier code: RE)*

Do not use sample OU5-EB042302RE, in favor of the initial analysis, due to non compliant surrogate recoveries. *(qualifier code: RE)*

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S1-SW08 RE | all results | +/- | J/UJ | HT |
| OU5-S2-SW04<br>OU5-S2-SW04-P<br>OU5-S2-SW03<br>OU5-S2-SW01<br>OU5-S2-SW02<br>OU5-S2-SW05<br>OU5-S2-SW05-P<br>OU5-S1-SW05<br>OU5-EB042302 | 3,3'-dichlorobenzidine | +/- | J/UJ | CCH |
| OU5-EB042302 | base/neutral compounds | +/- | J/UJ | SSL |
| OU5-S1-SW07 | hexachloropentadiene | - | UJ | MSL |
| OU5-S1-SW08<br>OU5-EB042302RE | all results | +/- | R | RE |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS AND TOC

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP007

A validation was performed on the Metals and TOC Data from SDG CP007. The data was evaluated based on the following parameters.

| | | |
|---|---|---|
| * | ● | Data Completeness |
| * | ● | Holding Times |
| * | ● | Calibrations |
| | ● | Blanks |
| * | ● | Interferences |
| * | ● | Matrix Spike Recovery |
| * | ● | Matrix Duplicates |
| * | ● | Field Duplicates |
| * | ● | Laboratory Control Samples |
| * | ● | Serial Dilutions |

* - All criteria were met for this parameter.

## Preparation and Field Blanks

1. The preparation and calibration blanks exhibited contamination for the following elements.

| Elements | Conc. | Samples affected |
|---|---|---|
| Mercury | 0.03 ug/l | all water samples below 0.15 ug/l |

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect at the reported value, "U". (BL)

2. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all water samples below 0.15 ug/l | Hg. | + | U | BL |
| 2.all "B" results | all analytes | B | J | OT |

# Data Validation Report

CH2M HILL
Cherry Point
SDG #: CP009

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP009 |
| Date: | June 28, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 26, 2002 |
| Number of Samples: | 13 Aqueous Sample(s) with 2 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles, Total RCRA Metals and Dissolved RCRA Metals, Hardness and Total Organic Carbon |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Seaman
Paul B. Humburg, President

6-28-02
Date

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(636) 936-1332 • Fax (636) 936-1335

**SDG# CP009**

**Samples and Fractions Reviewed**

Sample Identifications — Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | | D-MET | | HARD | | TOC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OU5-S2-TW11 | WATER | X | | X | | X | | X | | | | | |
| OU5-S2-TW11 MS | WATER | X | | | | | | | | | | | |
| OU5-S2-TW11 MSD | WATER | X | | | | | | | | | | | |
| OU5-S2-TW08 | WATER | X | | X | | X | | X | | | | | |
| OU5-S2-TW03 | WATER | X | | X | | X | | X | | | | | |
| OU5-S2-TW03 MS | WATER | | | | | X | | | | | | | |
| OU5-S2-TW03 MSD | WATER | | | | | X | | | | | | | |
| OU5-S2-TW03-P | WATER | X | | X | | X | | X | | | | | |
| OU5-S2-TW12 | WATER | X | | X | | X | | | | | | | |
| OU5-S2-TW10 | WATER | X | | X | | X | | | | | | | |
| OU5-S2-TW07 | WATER | X | | X | | X | | | | | | | |
| OU5-S2-TW04 | WATER | X | | X | | X | | | | | | | |
| OU5-S2-TW01 | WATER | X | | X | | X | | | | | | | |
| OU5-S2-TW05 | WATER | X | | X | | X | | | | | | | |
| OU5-S1-TW01 | WATER | X | | X | | X | | | | | | | |
| OU5-S1-SW04 | WATER | X | | X | | X | | X | | X | | X | |
| OU5-TB042602 | WATER | X | | | | | | | | | | | |
| Total Billable Samples (Water/Soil) | | 15 | 0 | 12 | 0 | 14 | 0 | 5 | 0 | 1 | 0 | 1 | 0 |

VOA= Volatiles
SVOA= Semivolatiles
MET= Total RCRA Metals
D MET= Dissolved RCRA Metals
HARD= Hardness
TOC= Total Organic Carbon

# DATA ASSESSMENT NARRATIVES

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP009

A validation was performed on the Volatile Data from SDG #CP009. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
  Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

## Field Duplicates

Sample OU5-S2-TW03 and duplicate sample OU5-S2-TW03-P did not exhibit comparable results for 1,1-dichloroethene with 200% RPD. Qualify the results for 1,1-dichloroethene as estimated (J/UJ). *(qualifier code: FD)*

## System Performance and Overall Assessment

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S2-TW03<br>OU5-S2-TW03-P | 1,1-dichloroethene | +/- | J/UJ | FD |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT AND NARRATIVE

# SEMIVOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP009

A validation was performed on the Semivolatile Data from SDG #CP009. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

## System Performance and Overall Assessment

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|

No qualifications required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS, HARDNESS AND TOC

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP009

A validation was performed on the Metals, hardness and TOC Data from SDG CP009. The data was evaluated based on the following parameters.

| | | |
|---|---|---|
| * | ● | Data Completeness |
| * | ● | Holding Times |
| * | ● | Calibrations |
| | ● | Blanks |
| * | ● | Interferences |
| * | ● | Matrix Spike Recovery |
| * | ● | Matrix Duplicates |
| * | ● | Field Duplicates |
| * | ● | Laboratory Control Samples |
| * | ● | Serial Dilutions |

* - All criteria were met for this parameter.

## Preparation and Field Blanks

1. The preparation and calibration blanks exhibited contamination for the following elements.

| Elements | Conc. | Samples affected |
|---|---|---|
| Chromium | 1.21 ug/l | all water samples below 6.05 ug/l |
| Mercury | 0.023 ug/l | all water samples below 0.115 ug/l |

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect, "U". (BL)

2. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all water samples below 6.05 ug/l | Cr. | + | U | BL |
| all water samples below 0.115 ug/l | Hg. | | | |
| 2.all "B" results | all analytes | B | J | OT |

# Data Validation Report

CH2M HILL
Cherry Point
SDG #: CP004 & CP005

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP004 |
| Date: | July 16, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 22, 2002 |
| Number of Samples: | 16 Non-Aqueous Sample(s) with 2 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Semivolatiles, Total RCRA Metals and pH |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Simpson — 7-16-02

Paul R. Humburg, President — Date

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(636) 936-1332 • Fax (636) 936-1335

**SDG# CP004**

**Samples and Fractions Reviewed**

Sample Identifications Analytical Fractions

| CH2M HILL ID | MATRIX | SVOA | | MET | | pH | |
|---|---|---|---|---|---|---|---|
| OU5-S1-SS01-01 | SOIL | | X | | X | | X |
| OU5-S1-SS02-01 | SOIL | | X | | X | | X |
| OU5-S1-SS03-01 | SOIL | | X | | X | | |
| OU5-S1-SS04-01 | SOIL | | X | | X | | X |
| OU5-S1-SS05-01 | SOIL | | X | | X | | |
| OU5-S1-SS05-01 MS | SOIL | | X | | | | |
| OU5-S1-SS05-01 MSD | SOIL | | X | | | | |
| OU5-S1-SS06-01 | SOIL | | X | | X | | |
| OU5-S1-SS07-01 | SOIL | | X | | X | | X |
| OU5-S1-SS08-01 | SOIL | | X | | X | | |
| OU5-S1-SS08-01 MS | SOIL | | | | X | | |
| OU5-S1-SS08-01 MSD | SOIL | | | | X | | |
| OU5-S2-SS01-01 | SOIL | | X | | X | | |
| OU5-S2-SS02-01 | SOIL | | X | | X | | |
| OU5-S2-SS03-01 | SOIL | | X | | X | | |
| OU5-S2-SS04-01 | SOIL | | X | | X | | |
| OU5-S2-SB05-04 | SOIL | | X | | X | | |
| OU5-S2-SS06-01 | SOIL | | X | | X | | |
| OU5-S2-SS07-01 | SOIL | | X | | X | | |
| OU5-S2-SS08-01 | SOIL | | X | | X | | |
| Total Billable Samples (Water/Soil) | | 0 | 18 | 0 | 18 | 0 | 4 |

SVOA= Semivolatiles
MET= Total RCRA Metals
pH= pH

# DATA ASSESSMENT NARRATIVES

# DATA ASSESSMENT AND NARRATIVE

# SEMIVOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP004

A validation was performed on the Semivolatile Data from SDG #CP004. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The initial calibration, analyzed on 04-26-02, contained compounds with %RSDs greater than 15% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: ICB)*

OU5-S2-SB05-04 benzaldehyde

The continuing calibration, K1276, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

OU5-S2-SS08-01 benzaldehyde

The continuing calibration, K1258, contained compounds with %Ds greater 20% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: CCH)*

OU5-S2-SB05-04 benzaldehyde

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S2-SB05-04 | benzaldehyde | + | J | ICB |
| OU5-S2-SS08-01 | benzaldehyde | +/- | J/UJ | CCH |
| OU5-S2-SB05-04 | benzaldehyde | + | J | CCH |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS AND WET CHEMISTRY

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP004

A validation was performed on the Metals and wet chemistry Data from SDG CP004. The data was evaluated based on the following parameters.

* ● Data Completeness
* ● Holding Times
* ● Calibrations
* ● Blanks
* ● Interferences
* ● Matrix Spike Recovery
* ● Matrix Duplicates
* ● Field Duplicates
* ● Laboratory Control Samples
* ● Serial Dilutions

* - All criteria were met for this parameter.

1. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

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# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all "B" results | all analytes | B | J | OT |

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP005 |
| Date: | July 16, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 22 - 23, 2002 |
| Number of Samples: | 24 Non-Aqueous Sample(s) with 3 MS/MSD(s)<br>1 Aqueous Sample(s) with 0 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles, Total RCRA Metals, Total Organic Carbon and pH |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Scafoss for Paul B. Humburg, President

7-16-02
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

**SDG# CP005**

**Samples and Fractions Reviewed**

Sample Identifications — Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | | TOC | | pH | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OU5-TB042302 | WATER | X | | | | | | | | | |
| OU5-S2-SS03-01 | SOIL | | | | | | | | X | | X |
| OU5-S2-SS04-01 | SOIL | | | | | | | | X | | X |
| OU5-S2-SS04-P-01 | SOIL | | | | | | | | X | | X |
| OU5-S2-SS05-01 | SOIL | | | | | | | | X | | X |
| OU5-S2-SS08-01 | SOIL | | | | | | | | X | | X |
| OU5-S1-SS01-01 | SOIL | | | | | | | | X | | |
| OU5-S1-SS02-01 | SOIL | | | | | | | | X | | |
| OU5-S1-SS04-01 | SOIL | | | | | | | | X | | |
| OU5-S1-SS07-01 | SOIL | | | | | | | | X | | |
| OU5-S1-SD01-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD01-00 MS | SOIL | | | | | | X | | | | |
| OU5-S1-SD01-00 MSD | | | | | | | X | | | | |
| OU5-S1-SD02-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD03-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD04-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD04-00 MS | SOIL | | | | X | | | | | | |
| OU5-S1-SD04-00 MSD | SOIL | | | | X | | | | | | |
| OU5-S1-SD05-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD06-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD07-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S1-SD08-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S2-SD01-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S2-SD02-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S2-SD02-00 MS | SOIL | | X | | | | | | | | |
| OU5-S2-SD02-00 MSD | SOIL | | X | | | | | | | | |
| OU5-S2-SD03-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S2-SD04-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S2-SD05-00 | SOIL | | X | | X | | X | | | | X |
| OU5-S2-SD04-P-00 | SOIL | | X | | X | | X | | X | | X |
| OU5-S1-SD03-P-00 | SOIL | | X | | X | | X | | X | | X |
| Total Billable Samples (Water/Soil) | | 1 | 17 | 0 | 17 | 0 | 17 | 0 | 11 | 0 | 20 |

VOA= Volatiles
SVOA= Semivolatiles
MET= Total RCRA Metals
TOC= Total Organic Carbon
pH= pH

# DATA ASSESSMENT NARRATIVES

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP005

A validation was performed on the Volatile Data from SDG #CP005. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
  Internal Standard Performance
  Blanks
  Surrogate Recoveries
* Laboratory Control Samples
  Matrix Spike/Matrix Spike duplicate
  Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The initial calibration, analyzed on 05-01-02, contained compounds with %RSDs greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detect results as rejected (R). *(qualifier code: ICB)*

OU5-TB042302 methylene chloride

The continuing calibration, F5925, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

OU5-TB042302 methylene chloride

The continuing calibration, M5207, contained compounds with %Ds greater 20% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: CCH)*

OU5-S1-SD04-00 2-butanone
OU5-S2-SD04-00
OU5-S2-SD04-P-00

The continuing calibration, M5285, contained compounds with %Ds greater 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

OU5-S1-SS03-P-00 1,2,4-trichlorobenzene

The continuing calibration, M5285, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R). *(qualifier code: CCL)*

OU5-S1-SS03-P-00 1,2-dibromo-3-chloropropane

**Internal Standards**

The following samples exhibited low internal standard area recovery for 1,4-dichlorobenzene. Qualify all compound results associated with the standard as estimated (J/UJ). *(qualifier code: ISL)*

OU5-S1-SD01-00
OU5-S1-SD03-00
OU5-S1-SD04-00
OU5-S1-SD05-00
OU5-S1-SD06-00
OU5-S1-SD07-00
OU5-S1-SD08-00
OU5-S2-SD04-00
OU5-S2-SD05-00
OU5-S2-SD04-P-00
OU5-S1-SD03-P-00

**Blank**

The blank(s) associated with samples in this SDG exhibited contamination. Qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

| Associated blank | Compound | Concentration | Action Level |
|---|---|---|---|
| VBLKM02A | acetone | 4J ug/Kg | 40 ug/Kg |
| | methylene chloride | 10 | 100 |
| VBLKM27B | acetone | 3J ug/Kg | 30 ug/Kg |
| | methylene chloride | 4J | 40 |
| VBLKM28A | acetone | 4J ug/Kg | 40 ug/Kg |
| | methylene chloride | 3J | 30 |

**Blanks (cont.)**

| Samples | Compound | Qualification |
|---|---|---|
| OU5-S1-SD03-P-00 | acetone | U *(qualifier code: BL)* |
| OU5-S1-SD01-00 | methylene chloride | U *(qualifier code: BL)* |
| OU5-S1-SD02-00 | | |
| OU5-S1-SD03-00 | | |
| OU5-S1-SD04-00 | | |
| OU5-S1-SD05-00 | | |
| OU5-S1-SD06-00 | | |
| OU5-S1-SD07-00 | | |
| OU5-S1-SD08-00 | | |
| OU5-S2-SD01-00 | | |
| OU5-S2-SD02-00 | | |
| OU5-S2-SD03-00 | | |
| OU5-S2-SD04-00 | | |
| OU5-S2-SD05-00 | | |
| OU5-S2-SD04-P-00 | | |

**Surrogates**

The following samples exhibited low surrogate recoveries for p-bromofluorobenzene. Qualify all results as estimated (J/UJ). *(qualifier code: SSL)*

OU5-S1-SD01-00
OU5-S1-SD03-00
OU5-S1-SD04-00
OU5-S1-SD05-00
OU5-S1-SD06-00
OU5-S1-SD07-00
OU5-S1-SD08-00
OU5-S2-SD04-00
OU5-S2-SD05-00
OU5-S2-SD04-P-00
OU5-S1-SD03-P-00

**Matrix Spike/Matrix Spike duplicate**

The matrix spike and matrix spike duplicate associated with sample OU5-S2-SD02-00 exhibited low recoveries in both the spike and the spike duplicate for 1,2,4-trichlorobenzene. Qualify the compound result as estimated (J/UJ). *(qualifier code: MSL)*

**Field Duplicates**

Sample OU5-S1-SD03-00 and duplicate sample OU5-S1-SD03-P-00 did not exhibit comparable results for trichlorofluoromethane (73% RPD). Qualify these compound results as estimated (J). *(qualifier code: FD)*

**Compound Identification/Quantitation**

Do not use the samples listed below, in favor of the initial analysis, due to non compliant internal standards and surrogate recoveries.
*(qualifier code: RE)*

OU5-S1-SD01-00RA
OU5-S1-SD03-00RA
OU5-S1-SD04-00RA
OU5-S1-SD05-00RA
OU5-S1-SD06-00RA
OU5-S1-SD07-00RA
OU5-S1-SD08-00RA
OU5-S2-SD04-00RA
OU5-S2-SD05-00RA
OU5-S2-SD04-P-00RA
OU5-S1-SD03-P-00RA

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-TB042302 | methylene chloride | +/- | J/R | ICB |
| OU5-TB042302 | methylene chloride | +/- | J/UJ | CCH |
| OU5-S1-SD04-00<br>OU5-S2-SD04-00<br>OU5-S2-SD04-P-00 | 2-butanone | + | J | CCH |
| OU5-S1-SS03-P-00 | 1,2,4-trichlorobenzene | +/- | J/UJ | CCH |
| OU5-S1-SS03-P-00 | 1,2-dibromo-3-chloropropane | +/- | J/R | CCL |
| OU5-S1-SD01-00<br>OU5-S1-SD03-00<br>OU5-S1-SD04-00<br>OU5-S1-SD05-00<br>OU5-S1-SD06-00<br>OU5-S1-SD07-00<br>OU5-S1-SD08-00<br>OU5-S2-SD04-00<br>OU5-S2-SD05-00<br>OU5-S2-SD04-P-00<br>OU5-S1-SD03-P-00 | all results | +/- | J/UJ | ISL |
| OU5-S1-SD03-P-00 | acetone | + | U | BL |
| OU5-S1-SD01-00<br>OU5-S1-SD02-00<br>OU5-S1-SD03-00<br>OU5-S1-SD04-00<br>OU5-S1-SD05-00<br>OU5-S1-SD06-00<br>OU5-S1-SD07-00<br>OU5-S1-SD08-00<br>OU5-S2-SD01-00<br>OU5-S2-SD02-00<br>OU5-S2-SD03-00<br>OU5-S2-SD04-00<br>OU5-S2-SD05-00<br>OU5-S2-SD04-P-00 | methylene chloride | + | U | BL |

# SUMMARY OF DATA QUALIFICATIONS



| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S1-SD01-00 | all results | +/- | J/UJ | SSL |
| OU5-S1-SD03-00 | | | | |
| OU5-S1-SD04-00 | | | | |
| OU5-S1-SD05-00 | | | | |
| OU5-S1-SD06-00 | | | | |
| OU5-S1-SD07-00 | | | | |
| OU5-S1-SD08-00 | | | | |
| OU5-S2-SD04-00 | | | | |
| OU5-S2-SD05-00 | | | | |
| OU5-S2-SD04-P-00 | | | | |
| OU5-S1-SD03-P-00 | | | | |
| OU5-S2-SD02-00 | 1,2,4-trichlorobenzene | +/- | J/UJ | MSL |
| OU5-S1-SD03-00 | trichlorofluoromethane | + | J | FD |
| OU5-S1-SD03-P-00 | | | | |
| OU5-S1-SD01-00RA | all results | +/- | R | RE |
| OU5-S1-SD03-00RA | | | | |
| OU5-S1-SD04-00RA | | | | |
| OU5-S1-SD05-00RA | | | | |
| OU5-S1-SD06-00RA | | | | |
| OU5-S1-SD07-00RA | | | | |
| OU5-S1-SD08-00RA | | | | |
| OU5-S2-SD04-00RA | | | | |
| OU5-S2-SD05-00RA | | | | |
| OU5-S2-SD04-P-00RA | | | | |
| OU5-S1-SD03-P-00RA | | | | |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT AND NARRATIVE

# SEMIVOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP005

A validation was performed on the Semivolatile Data from SDG #CP005. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
  Matrix Spike/Matrix Spike duplicate
* Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The initial calibration, analyzed on 04-29-02, contained compounds with %RSDs greater 15% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: ICB)*

| | |
|---|---|
| OU5-S1-SD01-00 | di-n-octylphthalate<br>dibenz(a,h)anthracene |

The continuing calibration, U1587, contained compounds with %Ds greater than 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

| | |
|---|---|
| OU5-S1-SD01-00 | carbazole |
| OU5-S1-SD02-00 | |
| OU5-S1-SD03-00 | |
| OU5-S1-SD04-00 | |
| OU5-S1-SD05-00 | |
| OU5-S1-SD06-00 | |
| OU5-S1-SD07-00 | |
| OU5-S1-SD08-00 | |
| OU5-S2-SD01-00 | |
| OU5-S2-SD02-00 | |
| OU5-S2-SD03-00 | |
| OU5-S2-SD04-00 | |
| OU5-S2-SD05-00 | |
| OU5-S2-SD04-P-00 | |

The continuing calibration, U1604, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R). *(qualifier code: CCL)*

| | |
|---|---|
| OU5-S1-SD03-P-00 | 3,3'-dichlorobenzidine |

**Calibrations (cont.)**

The continuing calibration, U1604, contained compounds with %Ds greater than 50% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). *(qualifier code: CCH)*

OU5-S1-SD03-P-00 benzaldehyde

**Matrix Spike and Matrix Spike Duplicate**

The matrix spike and matrix spike duplicate, associated with sample OU5-S1-SD04-00, both exhibited low recoveries for 4-nitrophenol, 4-chloroaniline, 3,3'-dichlorobenzidine, hexachloroethane and hexachlorocyclopentadiene. Qualify the non detected result as estimated (UJ). *(qualifier code: MSL)*

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S1-SD01-00 | di-n-octylphthalate<br>dibenz(a,h)anthracene | + | J | ICB |
| OU5-S1-SD01-00<br>OU5-S1-SD02-00<br>OU5-S1-SD03-00<br>OU5-S1-SD04-00<br>OU5-S1-SD05-00<br>OU5-S1-SD06-00<br>OU5-S1-SD07-00<br>OU5-S1-SD08-00<br>OU5-S2-SD01-00<br>OU5-S2-SD02-00<br>OU5-S2-SD03-00<br>OU5-S2-SD04-00<br>OU5-S2-SD05-00<br>OU5-S2-SD04-P-00 | carbazole | +/- | J/UJ | CCH |
| OU5-S1-SD03-P-00 | 3,3'-dichlorobenzidine | +/- | J/R | CCL |
| OU5-S1-SD03-P-00 | benzaldehyde | +/- | J/UJ | CCH |
| OU5-S1-SD04-00 | 4-nitrophenol<br>4-chloroaniline<br>3,3'-dichlorobenzidine<br>hexachloroethane<br>hexachlorocyclopentadiene | - | UJ | MSL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS AND WET CHEMISTRY

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP005

A validation was performed on the Metals and wet chemistry Data from SDG CP005. The data was evaluated based on the following parameters.

- * Data Completeness
- * Holding Times
- * Calibrations
- * Blanks
- * Interferences
- * Matrix Spike Recovery
- * Matrix Duplicates
- * Field Duplicates
- * Laboratory Control Samples
- Serial Dilutions

* - All criteria were met for this parameter.

## Serial Dilution results

1. The serial dilution results for soils for Chromium was greater than 10%. All positive results are qualified as estimated, "J". (SD)

2. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all soil samples | Cr. | + | J | SD |
| 2.all "B" results | all analytes | B | J | OT |

# Data Validation Report

CH2M HILL
Cherry Point
SDG #: CP001 & CP002

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP001 |
| Date: | June 24, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 15 - 22, 2002 |
| Number of Samples: | 20 Non-Aqueous Sample(s) with 1 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles and Total RCRA Metals |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Scanlon
for Paul B. Humburg, President

6-24-02
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

**SDG# CP001**

**Samples and Fractions Reviewed**

Sample Identifications — Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | |
|---|---|---|---|---|---|---|---|
| OU5-S1-SB01-04 | SOIL | | X | | X | | X |
| OU5-S1-SB02-04 | SOIL | | X | | X | | X |
| OU5-S1-SB02-P-04 | SOIL | | X | | X | | X |
| OU5-S1-SB03-04 | SOIL | | X | | X | | X |
| OU5-S1-SB03-04 MS | SOIL | | X | | X | | X |
| OU5-S1-SB03-04 MSD | SOIL | | X | | X | | X |
| OU5-S1-SB04-04 | SOIL | | X | | X | | X |
| OU5-S1-SB05-04 | SOIL | | X | | X | | X |
| OU5-S1-SB06-04 | SOIL | | X | | X | | X |
| OU5-S1-SB07-04 | SOIL | | X | | X | | X |
| OU5-S1-SB08-04 | SOIL | | X | | X | | X |
| OU5-S1-SS04-P-01 | SOIL | | | | X | | X |
| OU5-S1-SS07-P-01 | SOIL | | | | X | | X |
| OU5-S2-SB01-04 | SOIL | | X | | X | | X |
| OU5-S2-SB02-04 | SOIL | | X | | X | | X |
| OU5-S2-SB03-04 | SOIL | | X | | X | | X |
| OU5-S2-SB04-04 | SOIL | | X | | X | | X |
| OU5-S2-SB06-04 | SOIL | | X | | X | | X |
| OU5-S2-SB07-04 | SOIL | | X | | X | | X |
| OU5-S2-SB08-04 | SOIL | | X | | X | | X |
| OU5-S2-SS-01 | SOIL | | X | | X | | X |
| OU5-S2-SS04-P-01 | SOIL | | | | X | | X |
| Total Billable Samples (Water/Soil) | | 0 | 19 | 0 | 22 | 0 | 22 |

VOA= Volatiles
SVOA= Semivolatiles
MET= Total RCRA Metals

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP001

A validation was performed on the Volatile Data from SDG #CP001. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
  Internal Standard Performance
  Blanks
  Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
  Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The initial calibration, analyzed on 04-23-02, contained compounds with %RSDs greater than 15% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: ICB)*

| | |
|---|---|
| OU5-S1-SB02-P-04 | acetone |
| OU5-S1-SB02-04 | |
| OU5-S1-SB07-04 | |
| OU5-S1-SB05-04 | |
| OU5-S1-SB01-04 | |
| OU5-S2-SB06-04 | |
| OU5-S2-SB02-04 | |

**Internal Standards**

Sample OU5-S1-SB06-04RA exhibited low internal standard area recoveries for all standards. Qualify all results as estimated (J/UJ). *(qualifier code: ISL)*

**Blank**

The blank(s) associated with samples in this SDG exhibited contamination. Qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

| Associated blank | Compound | Concentration | Action Level |
|---|---|---|---|
| VBLKM23B | methylene chloride | 7 ug/Kg | 70 ug/Kg |
| VBLKM24A | acetone | 3J ug/Kg | 30 ug/Kg |
| | methylene chloride | 4J | 40 |

**Blanks (cont.)**

| Samples | Compound | Qualification |
|---|---|---|
| OU5-S1-SB02-P-04<br>OU5-S1-SB05-04<br>OU5-S1-SB01-04<br>OU5-S1-SB08-04<br>OU5-S1-SB07-04<br>OU5-S1-SB06-04<br>OU5-S1-SB08-04<br>OU5-S1-SB02-04<br>OU5-S2-SB01-04<br>OU5-S2-SB04-04<br>OU5-S2-SS-01<br>OU5-S1-SB04-04 | methylene chloride | CRQL *(qualifier code:BL)* |
| OU5-S1-SB02-04<br>OU5-S1-SB07-04<br>OU5-S1-SB03-04<br>OU5-S1-SB06-04<br>OU5-S2-SB03-04 | methylene chloride | U *(qualifier code:BL)* |
| OU5-S2-SB04-04<br>OU5-S1-SB04-04<br>OU5-S1-SB03-04<br>OU5-S2-SB03-04 | acetone | CRQL *(qualifier code:BL)* |
| OU5-S2-SB01-04<br>OU5-S1-SB06-04 | acetone | U *(qualifier code:BL)* |

**Surrogates**

Samples OU5-S2-SB07-04 and OU5-S2-SB06-04 exhibited low surrogate recoveries for p-bromofluorobenzene. Qualify all results as estimated (J/UJ). *(qualifier code: SSL)*

**Field Duplicates**

Sample OU5-S1-SB02-04 and duplicate sample OU5-S1-SB02-P-04 did not exhibit comparable results for trichlorofluoromethane (77% RPD) and acetone (55% RPD). Qualify these compound results as estimated (J). *(qualifier code: FD)*

**Compound Identification/Quantitation**

Do not use sample OU5-S1-SB06-04, in favor of the re-analysis, due to non compliant internal standard area and surrogate recoveries. *(qualifier code: RE)*

Do not use samples OU5-S2-SB07-04RA and OU5-S2-SB06-04RA, in favor of the initial analysis, due to non compliant surrogate recoveries. *(qualifier code: RE)*

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S1-SB02-P-04 | acetone | + | J | ICB |
| OU5-S1-SB02-04 | | | | |
| OU5-S1-SB07-04 | | | | |
| OU5-S1-SB05-04 | | | | |
| OU5-S1-SB01-04 | | | | |
| OU5-S2-SB06-04 | | | | |
| OU5-S2-SB02-04 | | | | |
| OU5-S1-SB06-04RA | all results | +/- | J/UJ | ISL |
| OU5-S1-SB02-P-04 | methylene chloride | + | CRQL | BL |
| OU5-S1-SB05-04 | | | | |
| OU5-S1-SB01-04 | | | | |
| OU5-S1-SB08-04 | | | | |
| OU5-S1-SB07-04 | | | | |
| OU5-S1-SB06-04 | | | | |
| OU5-S1-SB08-04 | | | | |
| OU5-S1-SB02-04 | | | | |
| OU5-S2-SB01-04 | | | | |
| OU5-S2-SB04-04 | | | | |
| OU5-S2-SS-01 | | | | |
| OU5-S1-SB04-04 | | | | |
| OU5-S1-SB02-04 | methylene chloride | + | U | BL |
| OU5-S1-SB07-04 | | | | |
| OU5-S1-SB03-04 | | | | |
| OU5-S1-SB06-04 | | | | |
| OU5-S2-SB03-04 | | | | |
| OU5-S2-SB04-04 | acetone | + | CRQL | BL |
| OU5-S1-SB04-04 | | | | |
| OU5-S1-SB03-04 | | | | |
| OU5-S2-SB03-04 | | | | |
| OU5-S2-SB01-04 | acetone | + | U | BL |
| OU5-S1-SB06-04 | | | | |
| OU5-S2-SB07-04 | all results | +/- | J/UJ | SSL |
| OU5-S2-SB06-04 | | | | |

# SUMMARY OF DATA QUALIFICATIONS



| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-S1-SB03-04 | acetone | + | J | MSL |
| OU5-S1-SB02-04 | trichlorofluoromethane | + | J | FD |
| OU5-S1-SB02-P-04 | acetone | | | |
| OU5-S1-SB06-04 | all results | +/- | R | RE |
| OU5-S2-SB07-04RA | | | | |
| OU5-S2-SB06-04RA | | | | |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE

## SEMIVOLATILES

**General**

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C for Semivolatiles; the National Functional Guidelines for Organic Data Validation, 10/99; and NEESA Level D requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

**SDG #CP001**

A validation was performed on the SVOA Data from SDG CP001. The data was evaluated based on the following parameters:

| | | |
|---|---|---|
| * | • | Data Completeness |
| * | • | Holding Times |
| * | • | GC/MS Tuning |
| | • | Calibration |
| | • | Blanks |
| * | • | Surrogate Recoveries |
| | • | Matrix Spike/Matrix Spike Duplicates |
| * | • | Field Duplicates |
| * | • | Internal Standard Performance |
| * | • | Compound Identification |
| * | • | Compound Quantitation |

* - All criteria were met for this parameter.

**Calibrations**

The initial calibration analyzed 4/26/02 on Instrument 5970-K exhibited one compound with a %RSD greater than 50% but less than 90%. For the following samples and non-compliant compound, the reported positive and non-detect results are qualified as estimated, J/UJ.

| | |
|---|---|
| All Samples | 2,4-dinitrophenol |

**Calibrations (continued)**

The continuing calibration standard K1227 analyzed 4/29/02 at 8:25 exhibited one compound with a %D greater than 50% but less than 90%. For the following samples and non-compliant compound, the reported positive and non-detect results are qualified as estimated, J/UJ.

| | |
|---|---|
| OU5-S1-SB06-04 | benzaldehyde |
| OU5-S1-SB07-04 | |
| OU5-S1-SB05-04 | |
| OU5-S1-SB01-04 | |
| OU5-S1-SB08-04 | |
| OU5-S2-SB07-04 | |
| OU5-S2-SB08-04 | |
| OU5-S2-SB02-04 | |
| OU5-S2-SB01-04 | |
| OU5-S2-SB03-04 | |
| OU5-S2-SB04-04 | |
| OU5-S2-SS-01 | |

**Blanks**

The field blank associated with the field samples in this SDG exhibited contamination for which qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

| Associated blank | Compound | Concentration | Action Level |
|---|---|---|---|
| OU5-FB0415-02 | bis(2-ethylhexyl)phthalate | 11 ug/L | 3630 ug/Kg |

| Samples | Compound | Qualifications |
|---|---|---|
| OU5-S2-SS-01 | bis(2-ethylhexyl)phthalate | RL |

**Matrix Spike/Matrix Spike Duplicates**

The Matrix Spike/Matrix Spike Duplicate pair of sample OU5-S1-SB03-04 exhibited spike recoveries below the QC limits for the following compounds in both spike samples. Further, both laboratory control samples extracted with the samples in this SDG exhibited recoveries below the QC limits for the same two compounds. Therefore, in the professional judgement of the data validator, the reported positive and/or non-detect results for the noted compounds are qualified as estimated, J/UJ, in all samples.

| | |
|---|---|
| All Samples | 4-chloroaniline<br>hexachlorocyclopentadiene |

**System Performance and Overall Assessment**

The data, as reported, required qualifications.

## GLOSSARY OF DATA QUALIFIERS

### QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

### BLANK QUALIFICATION CODES

| | |
|---|---|
| U - | The sample result is greater than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Cross out the "B" flag and qualify the sample result with a "U". |
| RL - | The sample result is less than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Reject the sample result, cross out the "B" flag, and report the RL. |
| No Action - | The sample result is greater than the RL and greater than five times (5X) (10 times for common laboratory contaminants) the blank value. |

RL - indicates reporting limit

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| All Samples | 2,4-dinitrophenol | +/- | J/UJ | CCL |
| OU5-S1-SB06-04<br>OU5-S1-SB07-04<br>OU5-S1-SB05-04<br>OU5-S1-SB01-04<br>OU5-S1-SB08-04<br>OU5-S2-SB07-04<br>OU5-S2-SB08-04<br>OU5-S2-SB02-04<br>OU5-S2-SB01-04<br>OU5-S2-SB03-04<br>OU5-S2-SB04-04<br>OU5-S2-SS-01 | benzaldehyde | +/- | J/UJ | CCL |
| OU5-S2-SS-01 | bis(2-ethylhexyl)phthalate | + | RL | BL |
| All Samples | 4-chloroaniline<br>hexachlorocyclopentadiene | +/- | J/UJ | MSL/BSL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP001

A validation was performed on the Metals Data from SDG CP001. The data was evaluated based on the following parameters.

| | | |
|---|---|---|
| * | ● | Data Completeness |
| * | ● | Holding Times |
| * | ● | Calibrations |
| | ● | Blanks |
| * | ● | Interferences |
| | ● | Matrix Spike Recovery |
| * | ● | Matrix Duplicates |
| * | ● | Field Duplicates |
| * | ● | Laboratory Control Samples |
| * | ● | Serial Dilutions |

* - All criteria were met for this parameter.

## Preparation and Field Blanks

1. The preparation and calibration blanks exhibited contamination for the following elements.

| Elements | Conc. | Samples affected |
|---|---|---|
| Barium | 0.052 mg/kg | no impact |
| Chromium | 0.137 mg/kg | no impact |
| Silver | 0.21 mg/kg | all soil samples below 1.05 mg/kg |

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect, "U". (BL)

## Matrix Spike Recovery results

2. The matrix spike recovery results for soil samples for Chromium (129%) was above the upper control limits (>125%). All positive results are qualified as estimated, "K". (MSH)

3. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all soil samples below 1.05 mg/kg | Ag. | + | U | BL |
| 2.all soil samples | Cr. | + | K | MSH |
| 3.all "B" results | all analytes | B | J | OT |

**HEARTLAND**
**ENVIRONMENTAL SERVICES, INC.**

# Data Validation Report

| | |
|---|---|
| SDG#: | CP002 |
| Date: | June 24, 2002 |
| Client Name: | CH2M Hill |
| Project/Site Name: | Cherry Point |
| Date Sampled: | April 15 - 18, 2002 |
| Number of Samples: | 12 Aqueous Sample(s) with 1 MS/MSD(s) |
| Laboratory: | Katahdin Analytical Services |
| Validation Guidance: | National Functional Guidelines for Organic and Inorganic Data |
| QA/QC Level: | DQO IV |
| Method(s) Utilized: | SW846 Third Edition |
| Analytical Fractions: | Volatiles, Semivolatiles and Total RCRA Metals |

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

for Craig G. Scafone
Paul B. Humburg, President

6-24-02
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

**SDG# CP002**

**Samples and Fractions Reviewed**

Sample Identifications Analytical Fractions

| CH2M HILL ID | MATRIX | VOA | | SVOA | | MET | |
|---|---|---|---|---|---|---|---|
| OU5-1GW02 | WATER | X | | X | | X | |
| OU5-1GW03 | WATER | X | | X | | X | |
| OU5-1GW04 | WATER | X | | X | | X | |
| OU5-1GW04 MS | WATER | X | | X | | X | |
| OU5-1GW04 MSD | WATER | X | | X | | X | |
| OU5-2GW01 | WATER | X | | X | | X | |
| OU5-2GW02 | WATER | X | | X | | X | |
| OU5-2GW02-P | WATER | X | | X | | X | |
| OU5-2GW03 | WATER | X | | X | | X | |
| OU5-EB041702 | WATER | X | | X | | X | |
| OU5-EB041802 | WATER | X | | X | | X | |
| OU5-FB041502 | WATER | X | | X | | X | |
| OU5-TB041802 | WATER | X | | | | | |
| OU5-TB041702 | WATER | X | | | | | |
| Total Billable Samples (Water/Soil) | | 14 | 0 | 12 | 0 | 12 | 0 |

VOA= Volatiles
SVOA= Semivolatiles
MET= Total RCRA Metals

# DATA ASSESSMENT AND NARRATIVE

# VOLATILE ORGANICS

## General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; the National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

## SDG # CP002

A validation was performed on the Volatile Data from SDG #CP002. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
* Compound Identification/Quantitation

* - All criteria were met for this parameter

**Calibrations**

The initial calibration, analyzed on 04-20-02, contained compounds with %RSDs greater than 15% and less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J). *(qualifier code: ICB)*

| | |
|---|---|
| OU5-1GW02 | acetone |
| OU5-2GW02 | |
| OU5-2GW02-P | |

**System Performance and Overall Assessment**

The data as presented requires qualifications.

# GLOSSARY OF DATA QUALIFIERS

## QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

## METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-1GW02 | acetone | + | J | ICB |
| OU5-2GW02 | | | | |
| OU5-2GW02-P | | | | |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE

## SEMIVOLATILES

**General**

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C for Semivolatiles; the National Functional Guidelines for Organic Data Validation, 10/99; and NEESA Level D requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

**SDG #CP002**

A validation was performed on the SVOA Data from SDG CP002. The data was evaluated based on the following parameters:

| | | |
|---|---|---|
| * | • | Data Completeness |
| | • | Holding Times |
| * | • | GC/MS Tuning |
| * | • | Calibration |
| * | • | Blanks |
| | • | Surrogate Recoveries |
| | • | Matrix Spike/Matrix Spike Duplicates |
| * | • | Field Duplicates |
| * | • | Internal Standard Performance |
| * | • | Compound Identification |
| * | • | Compound Quantitation |

* - All criteria were met for this parameter.

**Holding Times**

The following sample was re-extracted six days outside the extraction holding time of seven days for water samples. All reported positive and non-detect results are qualified as estimated, J/UJ.

OU5-1GW03RE

**Surrogate Recoveries**

The following sample exhibited surrogate recoveries less than 10% for the two of the three acid fraction surrogates. Therefore, all acid fraction compounds in the sample are rejected, R, in favor of the results reported from the RE analysis of the sample. All other compounds in the RE analysis (Base/Neutral compounds) are rejected, R, in favor of the results reported from the original analysis of the sample.

| | |
|---|---|
| OU5-1GW03 | Acid Fraction compounds |
| OU5-1GW03RE | Base/Neutral Fraction compounds |

**Matrix Spike/Matrix Spike Duplicates**

The Matrix Spike/Matrix Spike Duplicate pair of sample OU5-1GW04 exhibited spike recoveries below the QC limits for the following compounds in both spike samples. Further, two or three of the three laboratory control samples extracted with the samples in this SDG exhibited recoveries below the QC limits for the same compounds. Therefore, in the professional judgement of the data validator, the reported positive and/or non-detect results for the noted compounds are qualified as estimated, J/UJ, in all samples.

| | |
|---|---|
| All Samples | 2-chlorophenol<br>phenol<br>hexachlorocyclopentadiene<br>hexachlorobutadiene |

**System Performance and Overall Assessment**

The data, as reported, required qualifications.

## GLOSSARY OF DATA QUALIFIERS

### QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

### BLANK QUALIFICATION CODES

| | |
|---|---|
| U - | The sample result is greater than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Cross out the "B" flag and qualify the sample result with a "U". |
| RL - | The sample result is less than the RL and less than five times (5X) (10 times for common laboratory contaminants) the blank value. Reject the sample result, cross out the "B" flag, and report the RL. |
| No Action - | The sample result is greater than the RL and greater than five times (5X) (10 times for common laboratory contaminants) the blank value. |

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-1GW03RE | All Compounds | +/- | J/UJ | HT |
| OU5-1GW03 | Acid Fraction compounds | +/- | R | SSL |
| OU5-1GW03RE | Base/Neutral Fraction compounds | +/- | R | RE |
| All Samples | 2-chlorophenol<br>phenol<br>hexachlorocyclopentadiene<br>hexachlorobutadiene | +/- | J/UJ | MSL/BSL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

# SUMMARY OF DATA QUALIFICATIONS

| SAMPLE ID | COMPOUND ID | DL | QL | QUAL CODE |
|---|---|---|---|---|
| OU5-1GW03RE | All Compounds | +/- | J/UJ | HT |
| OU5-1GW03 | Acid Fraction compounds | +/- | R | SSL |
| OU5-1GW03RE | Base/Neutral Fraction compounds | +/- | R | RE |
| All Samples | 2-chlorophenol<br>phenol<br>hexachlorocyclopentadiene<br>hexachlorobutadiene | +/- | J/UJ | MSL/BSL |

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

# DATA ASSESSMENT NARRATIVE
# METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the USEPA Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

## SDGs # CP002

A validation was performed on the Metals Data from SDG CP002. The data was evaluated based on the following parameters.

- * Data Completeness
- * Holding Times
- * Calibrations
- Blanks
- * Interferences
- * Matrix Spike Recovery
- * Matrix Duplicates
- * Field Duplicates
- * Laboratory Control Samples
- * Serial Dilutions

* - All criteria were met for this parameter.

## Preparation and Field Blanks

1. The preparation and calibration blanks exhibited contamination for the following elements.

| Elements | Conc. | Samples affected |
|---|---|---|
| Chromium | 1.35 ug/l | no impact |
| Mercury | 0.31 ug/l | all water samples below 1.35 ug/l |

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect, "U". (BL)

2. All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL. (OT)

# QUALIFIER CODE REFERENCE
## Cherry Point

| Qualifier | Description |
|---|---|
| TN | Tune |
| BSL | Blank Spike/LCS - High Recovery |
| BSH | Blank Spike/LCS - Low Recovery |
| BD | Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision |
| BRL | Below Reporting Limit |
| ISL | Internal Standard - Low Recovery |
| ISH | Internal Standard - High Recovery |
| MSL | Matrix Spike and/or Matrix Spike Duplicate - Low Recovery |
| MSH | Matrix Spike and/or Matrix Spike Duplicate - High Recovery |
| MI | Matrix interference obscuring the raw data |
| MDP | Matrix Spike/Matrix Spike Duplicate Precision |
| 2S | Second Source - Bad reproducibility between tandem detectors |
| SSL | Spiked Surrogate - Low Recovery |
| SSH | Spiked Surrogate - High Recovery |
| SD | Serial Dilution Reproducibility |
| ICL | Initial Calibration - Low Relative Response Factors (RRF) |
| ICH | Initial Calibration - High Relative Response Factors (RRF) |
| ICB | Initial Calibration - Bad Linearity or Curve Function |
| CCL | Continuing Calibration - Low Recovery or %Difference |
| CCH | Continuing Calibration - High Recovery or %Difference |
| LD | Lab Duplicate Reproducibility |
| HT | Holding Time |
| PD | Pesticide Degradation |
| 2C | Second Column - Poor Dual Column Reproducibility |
| LR | Concentration Exceeds Linear Range |
| BL | Blank Contamination |
| RE | Redundant Result - due to Re-analysis or Re-extraction |
| DL | Redundant Result - due to Dilution |
| FD | Field Duplicate |
| OT | Other - explained in data validation report |

# SUMMARY OF DATA QUALIFICATIONS

| Sample ID | Analyte | DL | QL | |
|---|---|---|---|---|
| 1.all water samples below 1.35 ug/l | Hg. | + | U | BL |
| 2.all "B" results | all analytes | B | J | OT |

# Appendix E
# RI Soil Boring and Well Construction Logs

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW01 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 7' START : 4/16/02 END : 4/16/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty sand, (SM), 5Y 3/2, loose, organics. | |
| | 0.5-6 | | | | Clayey sand, (SC), 2.5Y 6/2, medium stiff, moist. | |
| | | | DPT 1 | | | |
| 5 | | | | | | |
| | 6-7 | | DPT 2 | | Medium to coarse sand, (SP), 2.5Y 5/6, loose, wet at 7'. | |
| | 7-15 | | | | Clay, (CL), gley1 4/5GY, soft, wet. | Estimated depth to water is 7' bgs. |
| 10 | | | DPT 3 | | | |
| | | | DPT 4 | | | |
| 15 | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW02 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 8' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-3 | | | | Fine sand with some silt, (SP), 2.5Y 5/4, loose. | |
| | | | DPT 1 | | | |
| | 3-7 | | | | Sandy clay, (CL), 2.5Y 6/6, soft, moist. | |
| 5 | | | | | | |
| | | | DPT 2 | | | |
| | 7-15 | | | | Medium sand with some coarser material, (SW), 10YR 5/6, oxidized from 9-10', very loose, wet at 8'. | Estimated depth to water is 8' bgs. |
| 10 | | | DPT 3 | | | |
| | | | DPT 4 | | | |
| 15 | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW03 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 3' START : 4/16/02 END : 4/16/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | |
| | 0.5-1.5 | | | | Fine sand, **(SP)**, moist, medium dense. | 0.4 |
| | 1.5-9 | | DPT 1 | | Clay with trace silt, **(CL)**, 2.5Y 6/2, wet at 9', soft. | 0.3 |
| | | | | | | 0 |
| | | | | | | Estimated depth to water is 3' bgs. |
| 5 | | | | | | |
| | | | DPT2 | | | |
| | 9-18 | | | | Medium to coarse sand, **(SW)**, 10YR 5/6, loose, wet. | |
| 10 | | | DPT 3 | | | |
| | | | DPT 4 | | | |
| 15 | | | | | | |
| | | | DPT 5 | | | |
| | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW04 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 6' START : 4/16/02 END : 4/16/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Silty sand, **(SP)**, 2.5Y 2.5/1, moist, organics, loose. | 3.6 |
| | 1-2 | | | | Clay with trace silt, **(CL)**, 10YR 6/8. | 1.8 |
| | 2-4 | | DPT 1 | | Fine sand, **(SW)**, 10YR 5/6, moist, loose. | 3.4 |
| | 4-15 | | | | Medium to coarse sand, **(SW)**, shell fragments abundant to 10', wet at 6', loose. | 2.3 |
| 5 | | | | | | 3.5 |
| | | | DPT2 | | | 2.3 Estimated depth to water is 6' bgs. |
| 10 | | | DPT 3 | | | |
| | | | DPT 4 | | | |
| 15 | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW05 SHEET 1 OF 1 |
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# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 6' START : 4/16/02 END : 4/16/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, loose. | 12.2 |
| | 1-2 | | | | Clayey sand, **(SP)**, 10YR 6/3, moist, medium dense. | 2.4 |
| | 2-3 | | DPT 1 | | Same as 1-2, 10YR 7/2. | 1.6 |
| | 3-5 | | | | Sandy clay, **(CL)**, 2.5Y 6/6, moist, medium stiff. | 1.5 |
| 5 | 5-10 | | | | Medium to coarse sand, **(SW)**, 2.5Y 7/4, shell fragments, wet at 6'. | 2.9 |
| | | | DPT2 | | | 1.4 Estimated depth to water is 6' bgs. |
| 10 | 10-11 | | DPT 3 | | Same as 5-10, no shell fragments, 5YR 4/6, wet highly oxidized. | |
| | 11-15 | | | | Same as 5-10, no oxidation, 10YR 6/3. | |
| | | | DPT 4 | | | |
| 15 | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW06 SHEET 1 OF 1 |
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# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 5' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Silty sand, **(SM)**, 5Y 3/1, organics, loose. | |
| | 1-5 | | | | Clayey sand, **(SC)**, 2.5Y 4/6, medium stiff, moist. | |
| | | | DPT 1 | | | |
| 5 | 5-7 | | | | Same as 1-5, 2.5Y 6/8. | Estimated depth to water is 5' bgs. |
| | | | DPT 2 | | | |
| | 7-10 | | | | Sandy clay, **(CL)**, 2.5Y 5/6, soft, moist. | |
| 10 | 10-11 | | DPT 3 | | Clay, **(CL)**, 2.5Y 5/6, very soft, wet at 10'. | |
| | 11-20 | | | | Coarse to medium sand, **(SP)**, 2.5Y 7/3, loose, wet, some shell fragments. | |
| | | | DPT 4 | | | |
| 15 | | | | | | |
| | | | DPT 5 | | | |
| 20 | | | | | End of boring | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW07 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 5' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty fine sand, **(SM)**, 2.5Y 5/2, moist, loose. | |
| | 0.5-3.5 | | | | Clayey fine sand, **(SC)**, 2.5Y 5/6, loose, moist. | |
| | | | DPT 1 | | | |
| | 3.5-4.5 | | | | Fine sand, **(SW)**, 5YR 8/2, moist, medium dense. | |
| 5 | 4.5-6.5 | | | | Same as 0.5-3.5, wet at 5', 2.5Y 5/6. | Estimated depth to water is 5' bgs. |
| | | | DPT2 | | | |
| | 6.5-15 | | | | Medium sand, **(SW)**, 5Y 8/1, loose, wet. | |
| 10 | | | DPT 3 | | | |
| | | | DPT 4 | | | |
| 15 | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW08 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 10' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Clayey sand, (SC), 10YR 5/6, loose, organics. | |
| | 0.5-1.5 | | | | Clean fine sand, (SW), some clay lenses, 10YR 7/8, loose. | |
| | 1.5-5 | | DPT 1 | | Clayey sand, (SC), 2.5Y 6/8, medium dense, moist. | |
| 5 | 5-10 | | DPT 2 | | Medium to coarse sand with shell fragments, (SP) 2.5Y 5/2, loose, wet at 10'. | |
| 10 | 10-19 | | DPT 3 | | Same as 5-10, some coarser material, 2.5Y 4/6. | Estimated depth to water is 10' bgs. |
| | | | DPT 4 | | | |
| 15 | | | DPT 5 | | | |
| | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW09 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 10' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Silty fine sand, **(SW)**, 2.5Y 5/4, loose, moist, some organics. | |
| | 1-6 | | | | Clay, **(CL)**, 2.5Y 5/6, medium stiff, moist. | |
| | | | DPT 1 | | | |
| 5 | | | | | | |
| | 6-10 | | DPT2 | | Fine to medium sand, **(SP)**, 2.5Y 7/6, loose, moist. | |
| 10 | | | DPT 3 | | | Estimated depth to water is 10' bgs. |
| | 10-18 | | | | Medium to coarse sand, **(SP)**, 10YR 5/6, loose, wet at 10'. | |
| 15 | | | DPT 4 | | | |
| | | | DPT 5 | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW10 SHEET 1 OF 1 |
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# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 4' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-3.5 | | DPT 1 | | Clayey sand, **(SC)**, 6.5Y 6/1, soft, moist. | |
| 5 | 3.5-6.5 | | DPT2 | | Clay, **(CL)**, 2.5Y 3/1, some silt, organics, soft, wet at 4'. | Estimated depth to water is 4' bgs. |
| 10 | 6.5-12 | | DPT 3 | | Medium to coarse sand, **(SP)**, 2.5Y 7/4, some shell fragments, loose, wet. | |
| 15 | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S1-TW11 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 10' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Clayey sand, **(SC)**, 2.5Y 6/1. | |
| | 1-2 | | | | Fine sand, **(SW)**, 2.5Y 5/4, loose, moist. | |
| | 2-9 | | DPT 1 | | Clay with some sand, **(CL)**, 2.5Y 6/8, medium stiff. | |
| 5 | | | | | | |
| | | | DPT2 | | | |
| | 9-11 | | | | Medium sand, **(SW)**, 2.5Y 6/8, loose, wet at 10'. | |
| 10 | | | DPT 3 | | | Estimated depth to water is 10' bgs. |
| | 11-19 | | | | Same as 2-9', 10YR 5/8. | |
| | | | DPT 4 | | | |
| 15 | | | | | | |
| | | | DPT 5 | | | |
| | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW01 SHEET 1 OF 1 |
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# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 3' START : 4/17/02 END : 4/17/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone / Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | |
| | 0.5-6 | | | | Clean medium to coarse sand, **(SW)**, 10YR 7/4, wet at 3'. | 0.4 |
| | | | DPT 1 | | | 0.3 |
| | | | | | | 0 |
| | | | | | | Estimated depth to water is 3' bgs. |
| 5 | | | | | | |
| | 6-12 | | DPT2 | | Same as 0.5-6, more coarse. | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW02 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 9' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-2 | | | | Clayey sand, (SP), 10YR 5/4, moist, dense. | 6.8 |
| | 2-7 | | DPT 1 | | Same as 0-2. | 6.9 |
| | | | | | | 7 |
| | | | | | | 7 |
| 5 | | | | | | 7.3 |
| | | | DPT2 | | | 7.1 |
| | 7-8.5 | | | | Silty clayey sand, (SP), 2.5Y 6/6, loose, moist. | 7.1 |
| | | | | | | 7 |
| | 8.5-14 | | | | Medium to coarse sand, (SW), 2.5Y 6/6, loose, wet at 9'. | 6.8 Estimated depth to water is 9' bgs. |
| 10 | | | DPT 3 | | | |
| | 14-18 | | DPT 4 | | Same as 8.5-14, 7.5YR 5/6. | |
| 15 | | | | | | |
| | | | DPT 5 | | | |
| | | | | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW03 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 2.5' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone / Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | |
| | 0.5-1.5 | | | | Coarse gravelly sand, (SP), 10YR 4/2, moist. | 0 |
| | 1.5-5 | | DPT 1 | | Fine sand with silts and clays, (SP), 10YR 4/2, wood fragments, wet at 2.5'. | 0<br>Estimated depth to water is 2.5' bgs. |
| 5 | 5-12 | | DPT2 | | Organic rich fine sand and silt, (OL), 2.5Y 2.5/1, wet. | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW04 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 2' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone / Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | |
| | 0.5-1 | | | | Clean medium sand, **(SW)**, 10YR 6/3, moist. | 0.2 |
| | 1-2 | | | | Sandy clay, **(CL)**, 10YR 6/3, moist. | |
| | 2-12 | | DPT 1 | | Alternating layers of coarse sand and medium sand ~1" thick, 10YR 6/6, wet at 2'. | 0<br>Estimated depth to water is 2' bgs. |
| 5 | | | DPT2 | | | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW05 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 3' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | 0.2 |
| | 1-5 | | DPT 1 | | Very fine sand, **(SP)**, gley1 7/5GY, wet at 3', loose. | 0<br>0<br>Estimated depth to water is 3' bgs. |
| 5 | 5-6 | | | | Same as 1-5, with coarser sand, **(SW)**. | |
| | 6-12 | | DPT2 | | Medium coarse sand, **(SW)**, 10YR 6/6, wet, loose. | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW06 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 10' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics, loose. | 13.4 |
| | 1-2 | | | | Clayey fine sand, **(SP)**, 2.5Y 2.5/1, moist, loose. | 7.5 |
| | 2-3 | | DPT 1 | | Decomposed concrete. | 6.8 |
| | 3-5 | | | | Medium sand with some fines, **(SP)**, 10YR 5/6, medium dense, moist. | 7.1 |
| 5 | 5-6 | | | | Decomposed concrete | 9 |
| | 6-7 | | DPT2 | | Same as 3-5. | 7.8 |
| | 7-10 | | | | Same as 3-5, wet at 10'. | 7.4 |
| | 10-12 | | | | Medium sand with some fines, **(SP)**, 10YR 5/4, loose, wet. | 7.1 |
| 10 | | | DPT 3 | | | 5.1 |
| | 12-18 | | | | Same as 10-12. | 3.4 Estimated depth to water is 10' bgs. |
| 15 | | | DPT 4 | | | |
| | | | DPT 5 | | End of boring | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW07 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 3' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Silty fine sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | |
| | 0.5-2 | | | | Fine sand, **(SP)**, 10YR 6/4, loose, moist. | 7.4 |
| | 2-4 | | DPT 1 | | Silty clay, **(CL)**, 10YR 6/4, wet at 3' bgs, wet at 3'. | 0.3<br>0.2<br>Estimated depth to water is 3' bgs. |
| | 4-12 | | | | Medium to coarse sand, **(SP)**, wet, 10YR 5/6, loose. | |
| 5 | | | DPT2 | | | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW08 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 1' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone / Above Hole |
|---|---|---|---|---|---|---|
| | 0-0.5 | | | | Fine silty sand, **(SP)**, 2.5Y 2.5/1, moist, organics. | 10.2 |
| | 0.5-3 | | | | Medium sand, **(SP)**, 10YR 5/2, wet at 1'. | Estimated depth to water is 1' bgs. |
| | | | DPT 1 | | | |
| | 3-12 | | | | Medium to coarse sand, **(SW)**, 10YR 6/4, loose, wet. | |
| 5 | | | | | | |
| | | | DPT2 | | | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW09 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 12.5' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1.5 | | | | Clayey SILT, **(ML)**, 2.5Y 4/3, olive brown, moist, loose. | 3.4 |
| | 1.5-7 | | DPT1 | | Clayey, fine to medium grained SAND, **(SP)**, 10YR 5/6, yellowish brown, wood, plastic debris, moist. | 3.2<br>7.6<br>1.9 |
| 5 | | | | | | 1.4 |
| | | | DPT 2 | | | 3<br>3.1 |
| | 7-9 | | | | Clayey fine SAND, **(SP)**, 2.5Y 7/1, light gray, moist. | 3<br>1 |
| | 9-10.5 | | | | CLAY, **(CH)**, Gley 5/5GY, greenish black, soft, plastic, moist. | |
| 10 | | | DPT 3 | | | 0.7 |
| | 10.5-12.5 | | | | Clayey fine SAND, **(SP)**, 10YR 5/6, yellowish brown, soft, moist. | 0.7<br>0.7<br>Estimated depth to water is 12.5' bgs. |
| | 12.5-16 | | | | Medium grained SAND, **(SW)**, 10YR 5/6, yellowish brown, iron stained, loose, wet. | |
| | | | DPT 4 | | | |
| 15 | | | | | | |
| | 16-22 | | | | Same as above. Clean, 10YR 6/3, pale brown. | |
| | | | DPT 5 | | | |
| 20 | | | | | | |
| | | | DPT 6 | | | |
| | | | | | End of boring. Installed OU5-S2-TW09 | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW10 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 9.0' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-2 | | | | Clayey SILT, **(ML)**, 2.5Y 3/2, medium dense, moist. | 1.1 |
| | 2-3 | | DPT 1 | | Silty Clay, **(CL)**, 2.5Y 3/1, moist. | 0.5 |
| | 3-7 | | | | Silty fine sand, **(SW)**, 2.5Y 4/1, moist, concrete fragments, metal debris, loose. | 0.4 |
| 5 | | | | | | 17.5 |
| | | | DPT2 | | | 4.5 |
| | | | | | | 39.2 |
| | | | | | | 9.2 |
| | 8-9 | | | | Same as 3-7 with brick and wood fragments, wet at 9'. | 5.2 |
| | 9-11 | | | | Clean fine sand, **(SW)**, 10YR 6/6, wet, loose. | 20.2 |
| 10 | | | DPT 3 | | | Estimated depth to water is 9.0' bgs. |
| | 11-14 | | | | Same as 9-11 with some fines. | |
| | 14-17 | | DPT 4 | | Same as 9-11 with some coarser material. | |
| 15 | | | | | | |
| | | | DPT 5 | | | |
| | | | | | End of boring. | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW11 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 9.0' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-4 | | | | Organic material with some silts and sands, **(OL)**, 2.5Y 2.5/1, soft, wet. | 24.1 |
| | | | DPT 1 | | | |
| | | | | | | Estimated depth to water is 9.0' bgs. |
| | 4-7 | | | | Same as 0-4, saturated. | |
| 5 | | | | | | |
| | | | DPT2 | | | |
| | 7-12 | | | | Clean medium sand, **(SW)**, Gley1 5/N, loose, wet. | |
| 10 | | | DPT 3 | | | |
| | | | | | End of boring | |
| 15 | | | | | | |
| 20 | | | | | | |

| CH2MHILL | PROJECT NUMBER 163768.FI.MW | BORING NUMBER OU5-S2-TW12 SHEET 1 OF 1 |
|---|---|---|

# SOIL BORING LOG

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

ELEVATION : DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED :Geoprobe Rig

WATER LEVELS : 9.0' START : 4/15/02 END : 4/15/02 LOGGER : S. Martin

| DEPTH BELOW SURFACE (FT) | INTERVAL (FT) | RECOVERY (IN) | #/TYPE | STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N) | CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole |
|---|---|---|---|---|---|---|
| | 0-1 | | | | Clayey SILT, **(ML)**, 2.5Y 4/3, loose, moist. | 0.4 |
| | 1-3 | | DPT 1 | | Fine sand with some clay and silt, **(SP)**, 10YR 4/3, some pebbles, moist. | 0.5 |
| | 3-6 | | | | Same as 1-3 | 0.4 |
| 5 | | | | | | 0.4 |
| | | | | | | 4.3 |
| | 6-6.5 | | DPT2 | | Concrete debris. | 84.6 |
| | 6.5-9 | | | | Clayey fine sand, **(SC)**, 2.5Y 3/1, loose, wet at 9'. | 30.1 |
| | | | | | | 33.1 |
| | | | | | | 12.2 |
| | 9-10 | | | | Same as 6.5-9, saturated. | Estimated depth to water is 9.0' bgs. |
| 10 | 10-11 | | DPT 3 | | Concrete and brick debris. | |
| | 11-16 | | | | Clean sand, **(SW)**, 2.5Y 6/8, becomes coarser with depth, wet. | |
| | | | DPT 4 | | Same as 9-11 with some coarser material. | |
| 15 | | | | | | |
| | | | DPT 5 | | | |
| | | | | | End of boring | |
| 20 | | | | | | |

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S1-TW01 | SHEET 1 OF 1 |

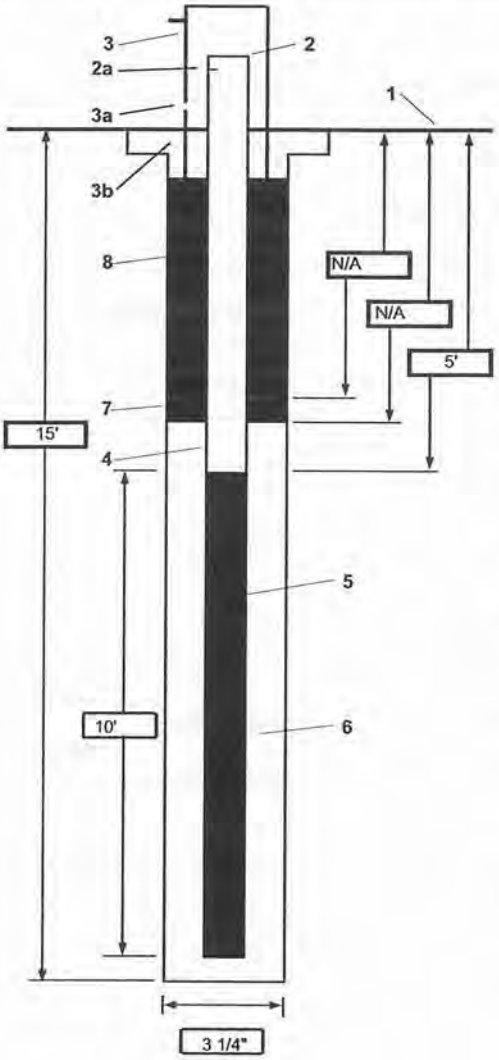
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 11.14' START : 4/17/02; 1350 END : 4/17/02; 1420 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 24.42
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?
b) concrete pad dimensions

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used

7- Type of seal: Bentonite
a) Quantity used: No available

8- Grout
a) Grout mix used: N/A
b) Method of placement
c) Vol. of well casing grout

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S1-TW02 | SHEET 1 OF 1 |

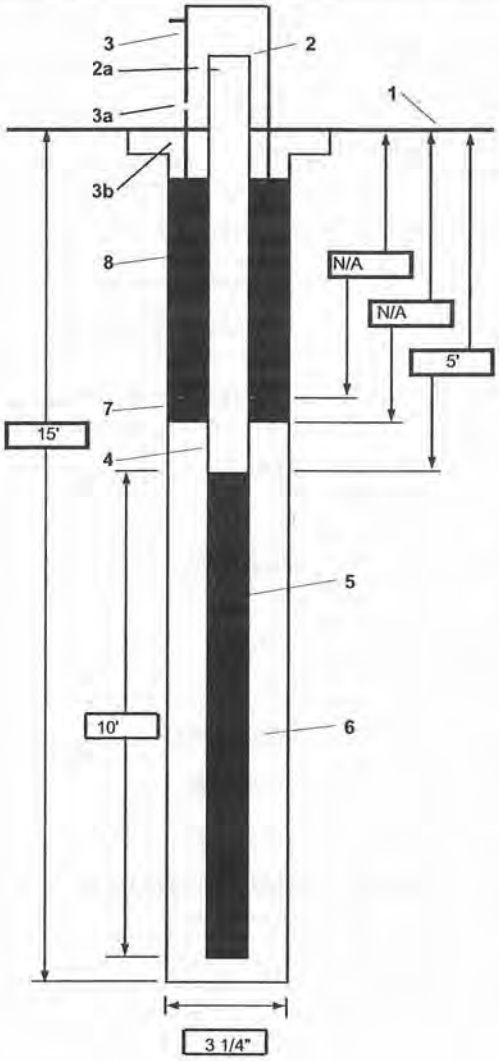
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 6.63' START : 4/17/02; 1240 END : 4/17/02; 1335 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 12.57
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1.5 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S1-TW03 | SHEET 1 OF 1 |

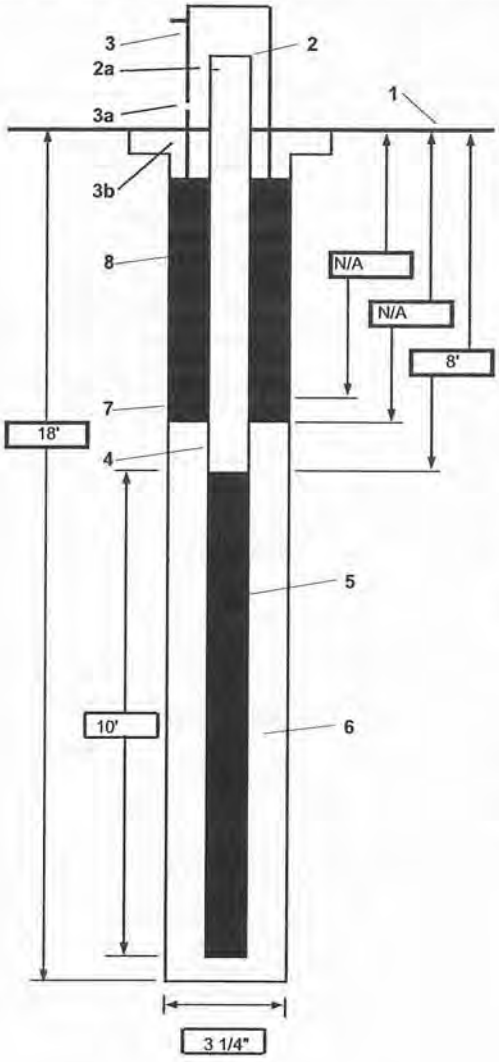
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 9.25' START : 4/16/02; 1532 END : 4/16/02; 1600 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 14.6
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1 bag

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S1-TW04 | SHEET 1 OF 1 |

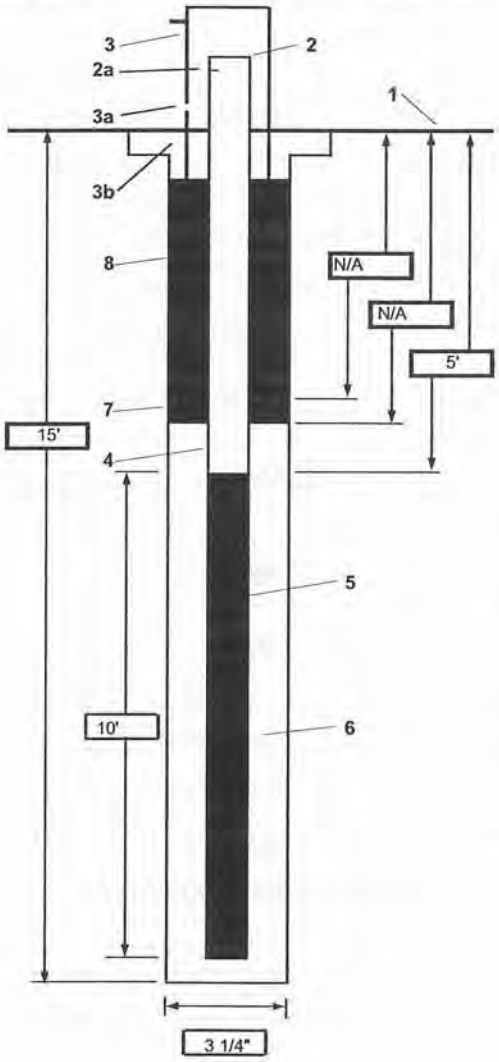
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 6.84' START : 4/16/02; 1610 END : 4/16/02; 1640 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 11.9
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 2 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 45 minutes

Estimated purge volume: 5 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S1-TW05 | SHEET 1 OF 1 |

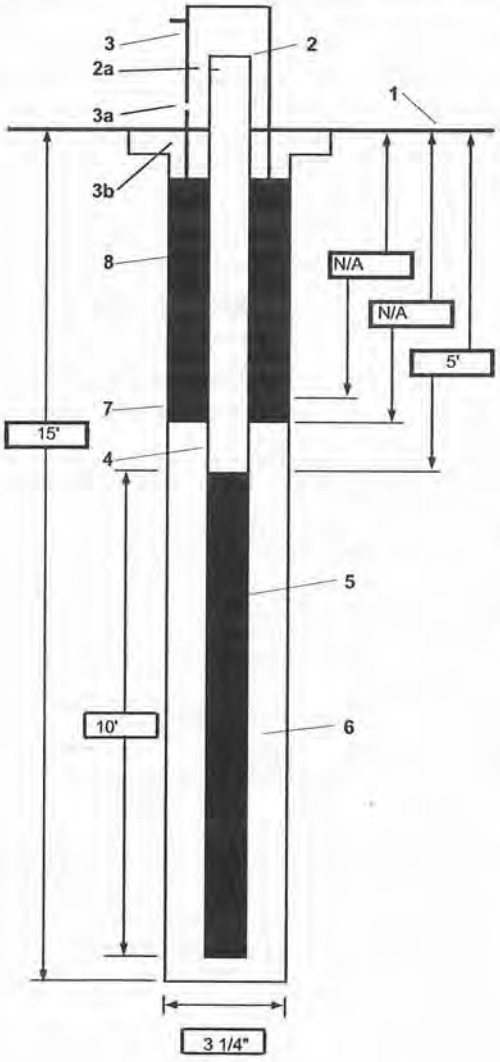
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 7.61' START : 4/16/02; 1645 END : 4/16/02; 1730 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 12.2
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 3 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER |
|---|---|
| 163768.FI.MW | OU5-S1-TW06 SHEET 1 OF 1 |

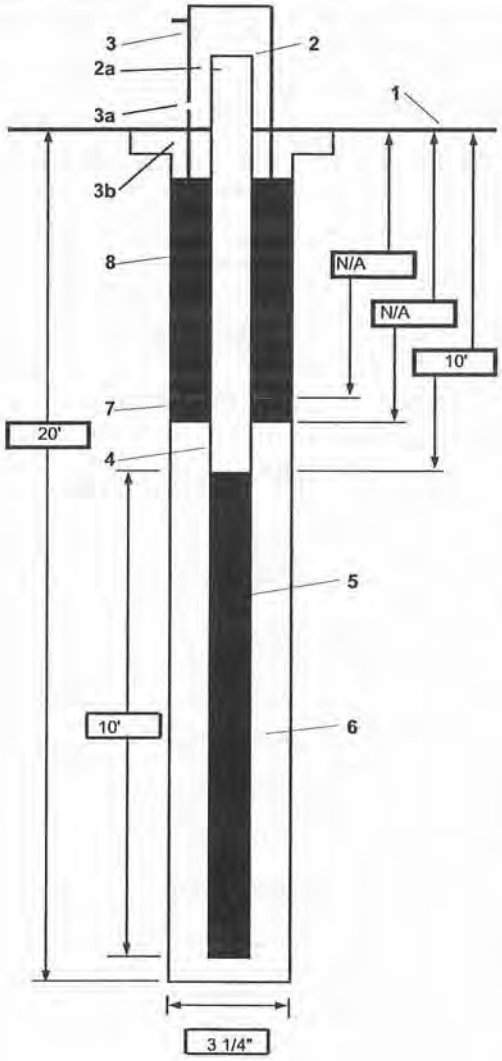
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 12.82' START : 4/17/02;1150 END : 4/17/02; 1230 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 15.57
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 3.5 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 35 minutes

Estimated purge volume: 2 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | | |
|---|---|---|---|
| 163768.FI.MW | OU5-S1-TW07 | SHEET 1 | OF 1 |

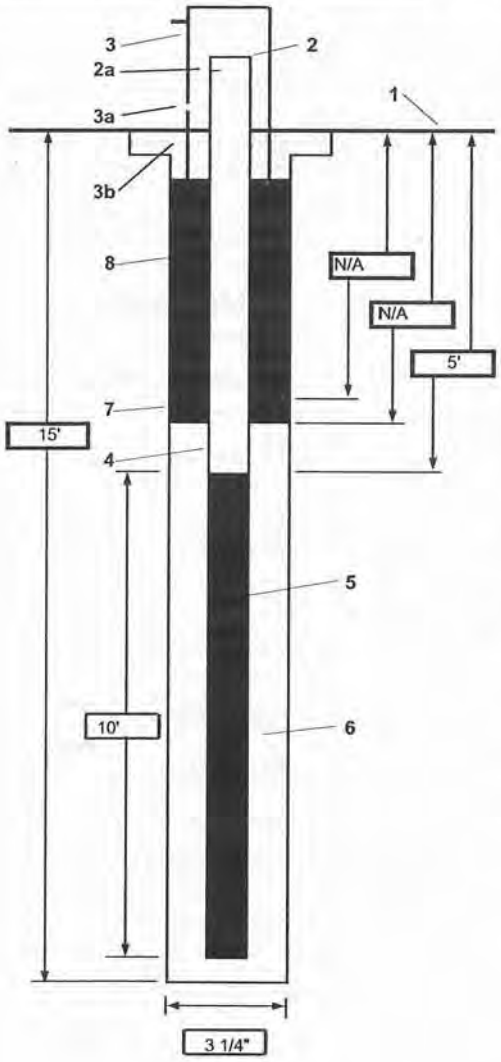
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 7.62' START : 4/17/02;0755 END : 4/17/02; 0830 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 11.31
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 3 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 50 minutes

Estimated purge volume: 3.5 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER |
|---|---|
| 163768.FI.MW | OU5-S1-TW08 SHEET 1 OF 1 |

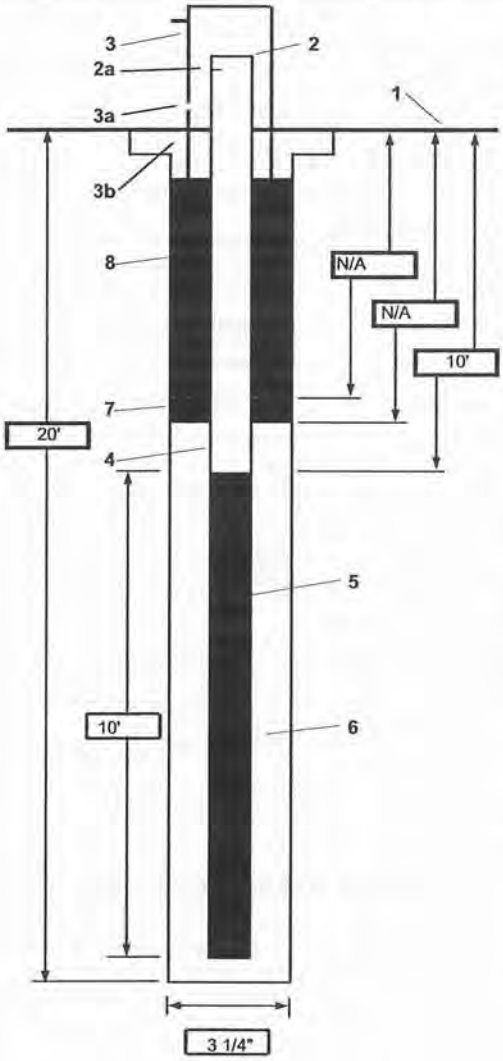
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 9.24' START : 4/17/02; 1105 END : 4/17/02; 1135 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 12.09
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: Not available

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER |
|---|---|
| 163768.FI.MW | OU5-S1-TW09 SHEET 1 OF 1 |

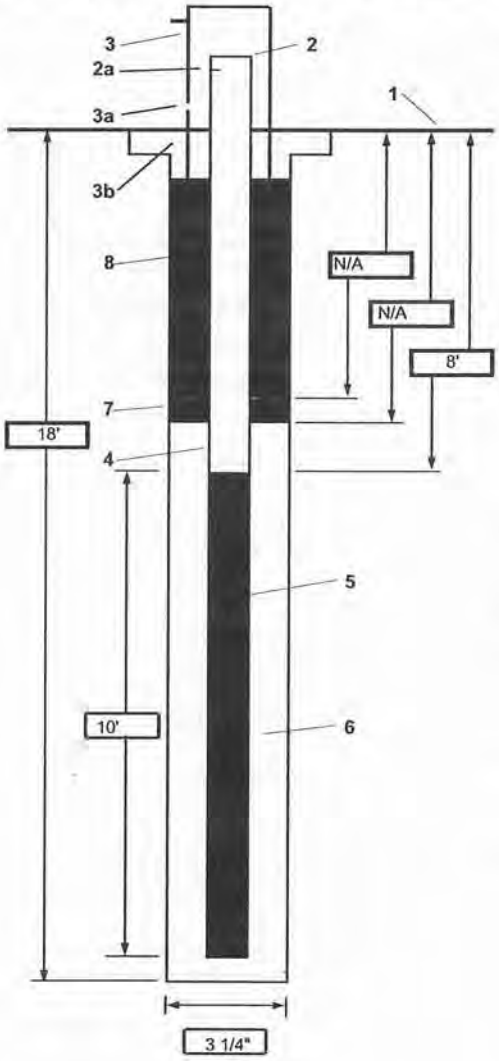
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 11.06' START : 4/17/02; 0925 END : 4/17/02; 0950 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 13.39
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 2.5 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S1-TW10 | SHEET 1 OF 1 |

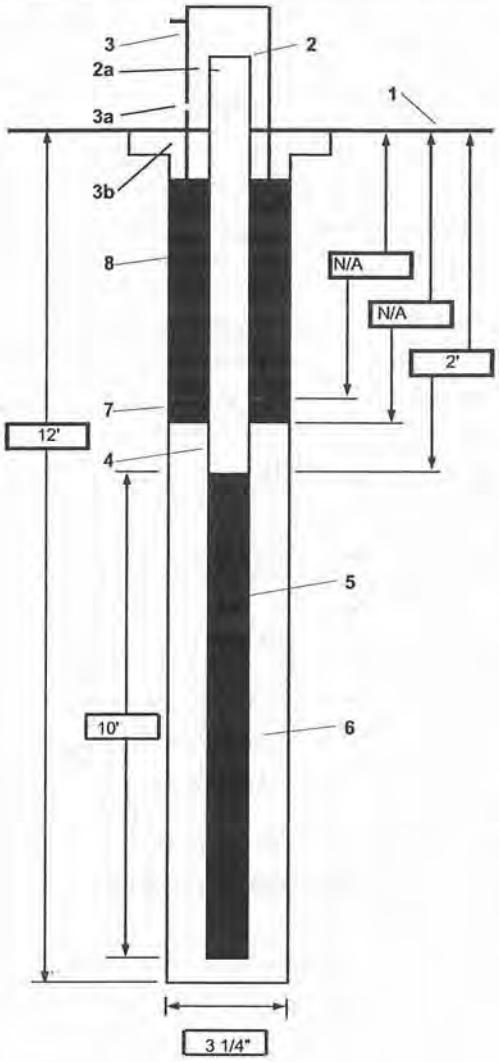
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 2.68' START : 4/17/02; 0840 END : 4/17/02; 0905 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 5.93
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1 bag

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 43 minutes

Estimated purge volume: 3 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | | |
|---|---|---|---|
| 163768.FI.MW | OU5-S1-TW11 | SHEET 1 | OF 1 |

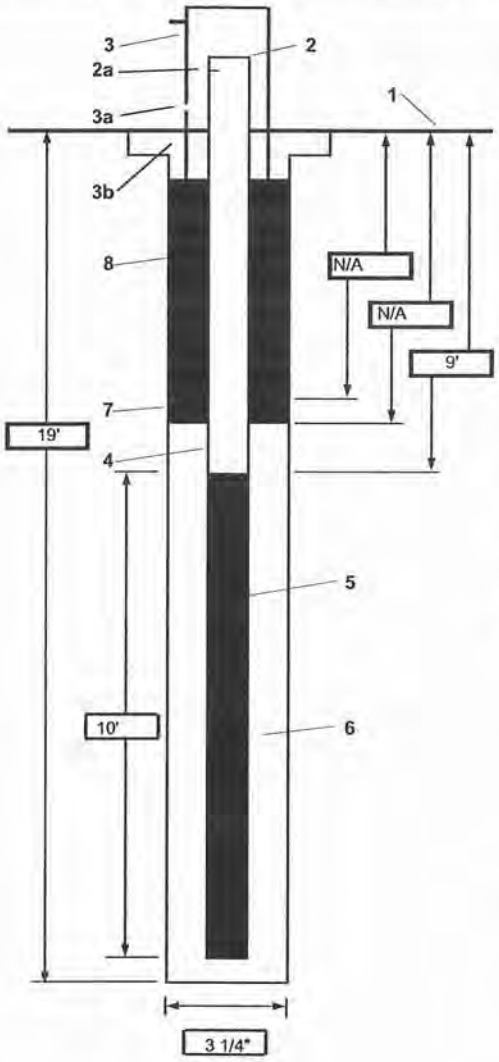
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 1

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 12.21' START : 4/17/02; 1005 END : 4/17/02; 1040 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 14.87
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 3 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 15 minutes

Estimated purge volume: 1.25 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW01 | SHEET 1 OF 1 |

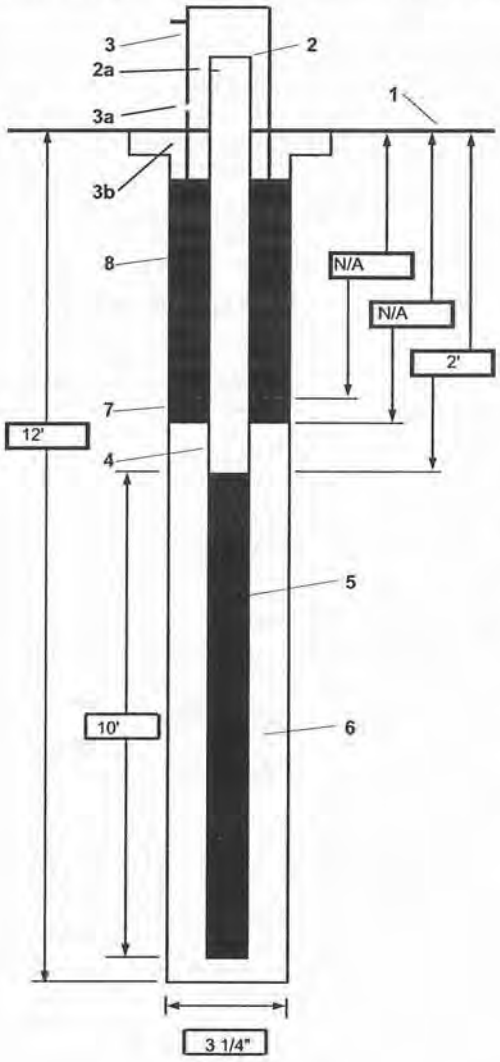
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 3.37' START : 4/15/02; 1130 END : 4/15/02; 1221 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 8.04
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1.5 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 30 minutes

Estimated purge volume: 1.75 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW02 | SHEET 1 OF 1 |

CH2MHILL

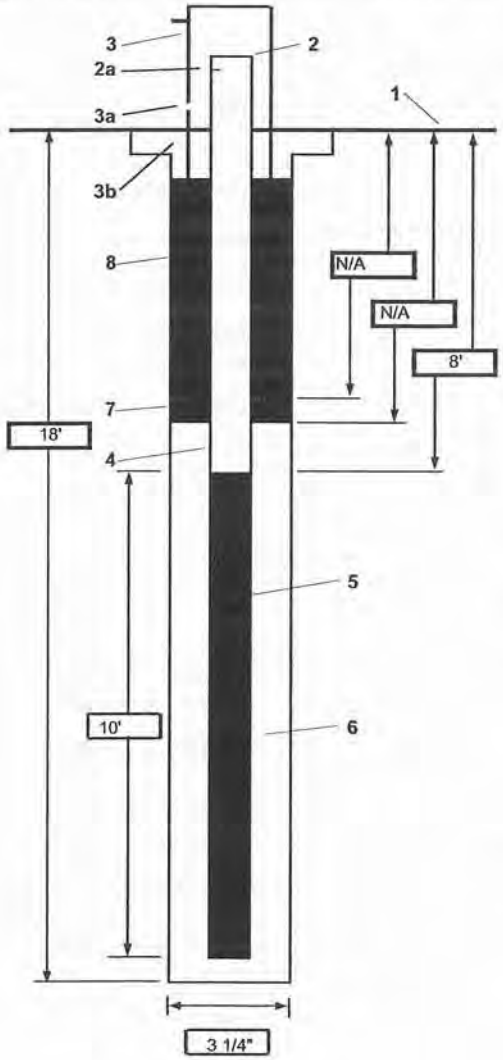
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 9.62' START : 4/16/02; 0829 END : 4/16/02; 0935 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 15.67
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 4 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW03 | SHEET 1 OF 1 |

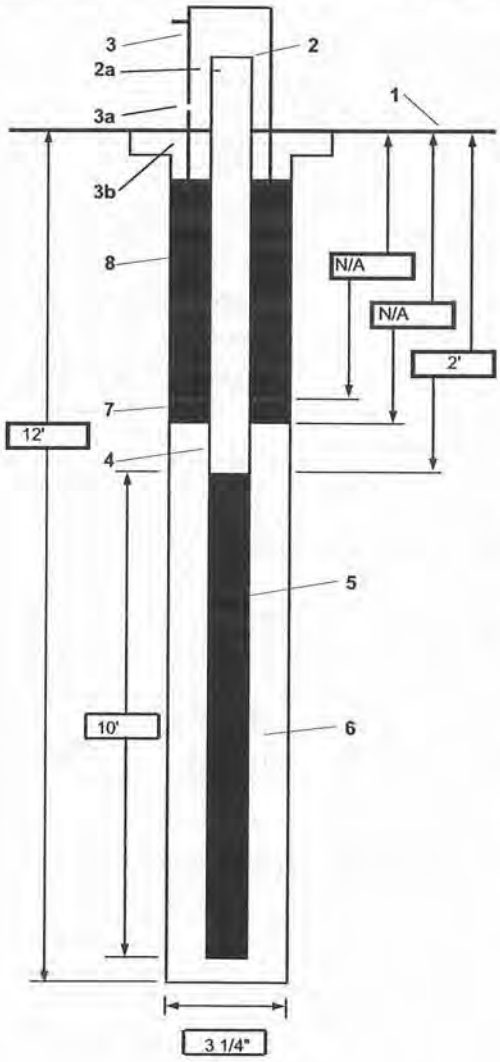
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 2.6' START : 4/15/02; 1221 END : 4/15/02; 1304 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 6.32
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 2 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW04 | SHEET 1 OF 1 |

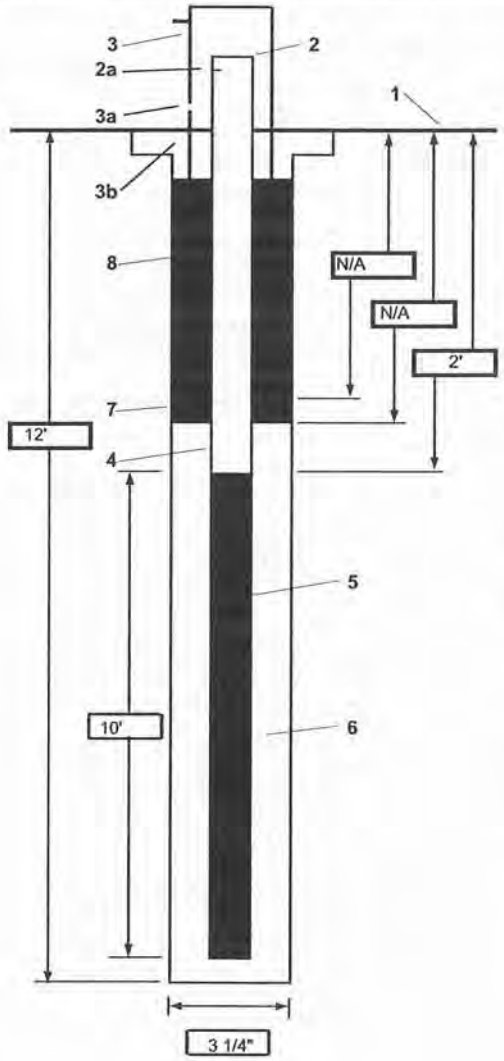
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 3.93' START : 4/15/02; 1304 END : 4/15/02; 1415 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 8.88
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 2 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW05 | SHEET 1 OF 1 |

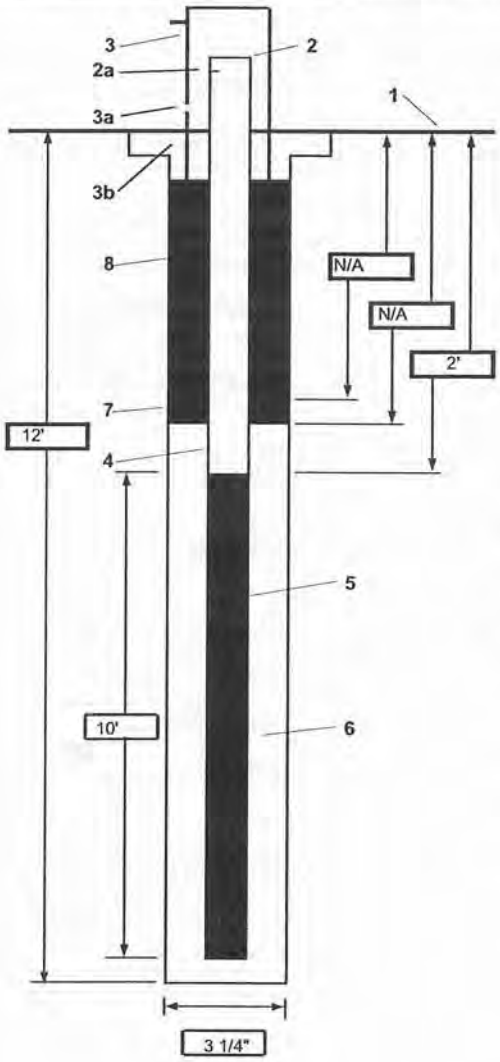
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 4.0' START : 4/15/02; 1415 END : 4/15/02; 1440 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 8.67
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 2 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 30 minutes

Estimated purge volume: 2.0 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW06 | SHEET 1 OF 1 |

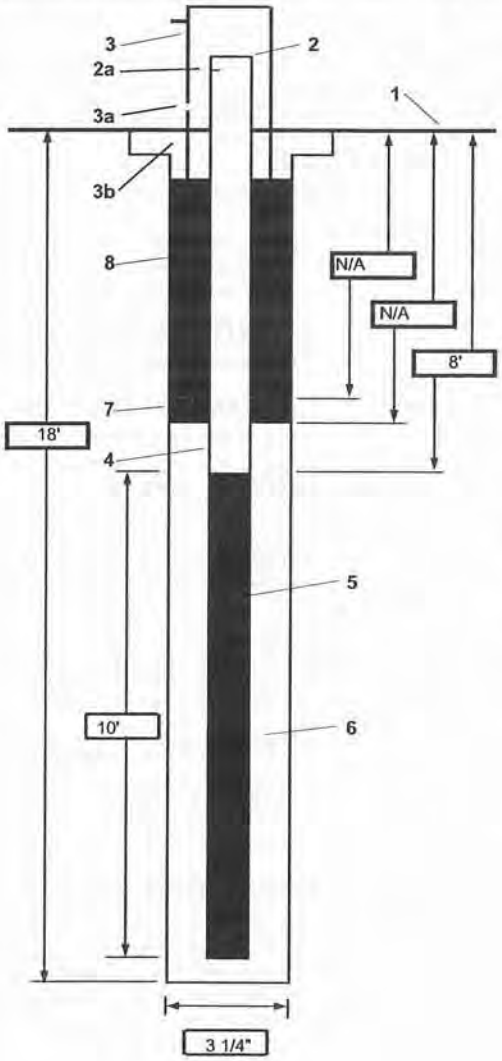
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 10.48' START : 4/16/02; 0946 END : 4/16/02; 1020 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 15.91
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: Not available

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 35 minutes

Estimated purge volume: 2 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW07 | SHEET 1 OF 1 |

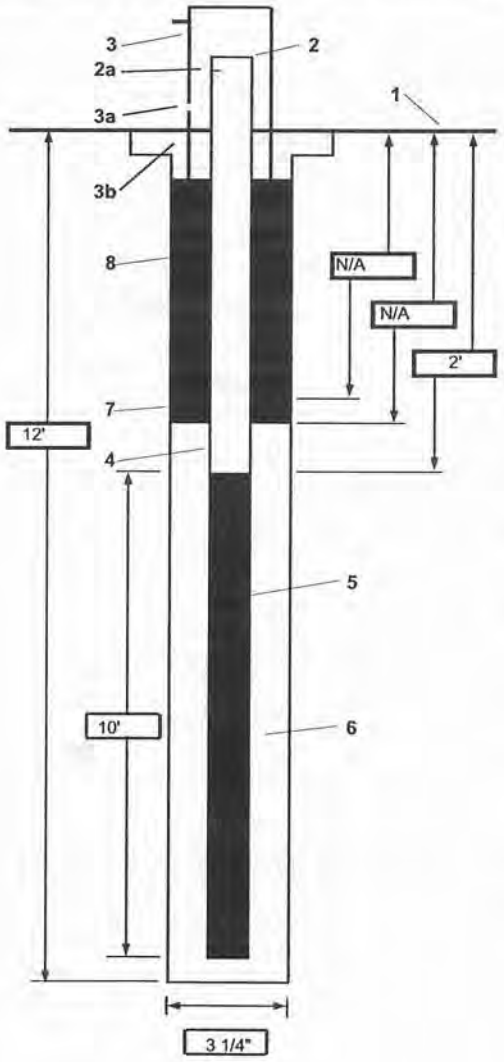
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 4.64' START : 4/15/02; 1450 END : 4/15/02; 1520 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 9.58
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1.5 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 30 minutes

Estimated purge volume: 1.75 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER |
|---|---|
| 163768.FI.MW | OU5-S2-TW08 SHEET 1 OF 1 |

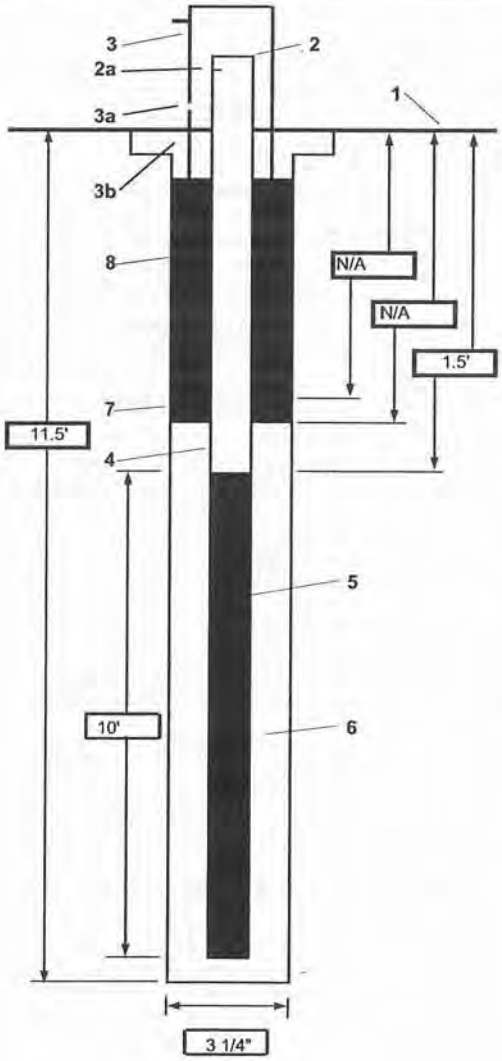
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 2.86' START : 4/16/02; 0734 END : 4/16/02; 0800 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 7.36
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1 bag

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 25 minutes

Estimated purge volume: 1.75 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW09 | SHEET 1 OF 1 |

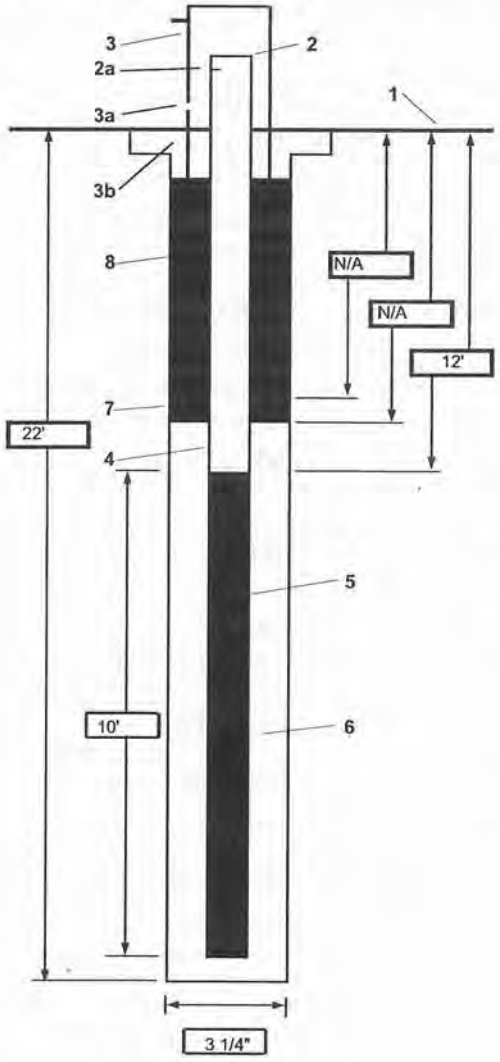
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 13.58' START : 4/15/02; 1044 END : 4/15/02; 1130 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 19.27
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite Pellets
a) Quantity used: 4 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 25 minutes

Estimated purge volume: 2 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW10 | SHEET 1 OF 1 |

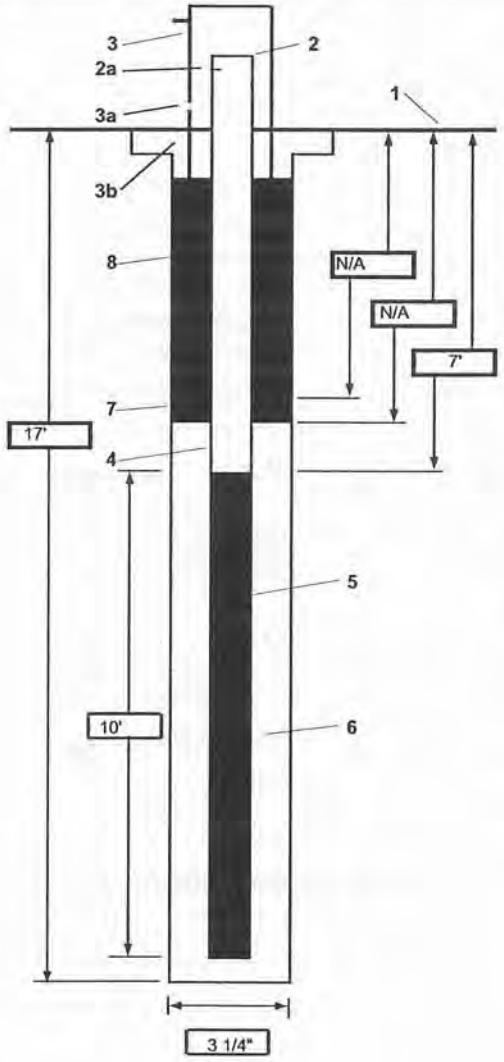
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 13.68' START : 4/15/02; 0851 END : 4/15/02; 0950 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 18.15
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 2.5 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW11 | SHEET 1 OF 1 |

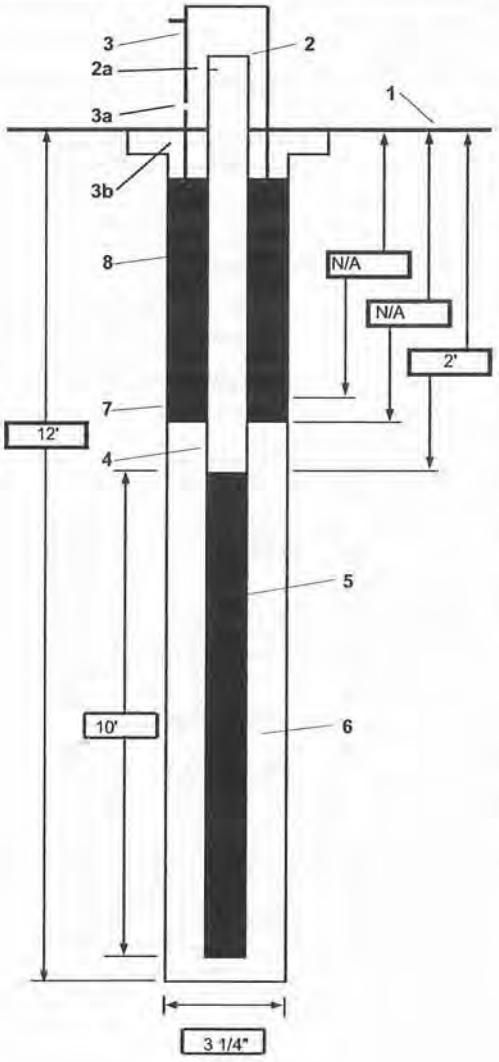
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 1.63' START : 4/16/02; 1102 END : 4/16/02; 1512 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 3.42
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 1 bag

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: 25 minutes

Estimated purge volume: 1.5 gallons

Comments: Temporary well - Bentonite seal from top of screen to ground surf

| PROJECT NUMBER | WELL NUMBER | |
|---|---|---|
| 163768.FI.MW | OU5-S2-TW12 | SHEET 1 OF 1 |

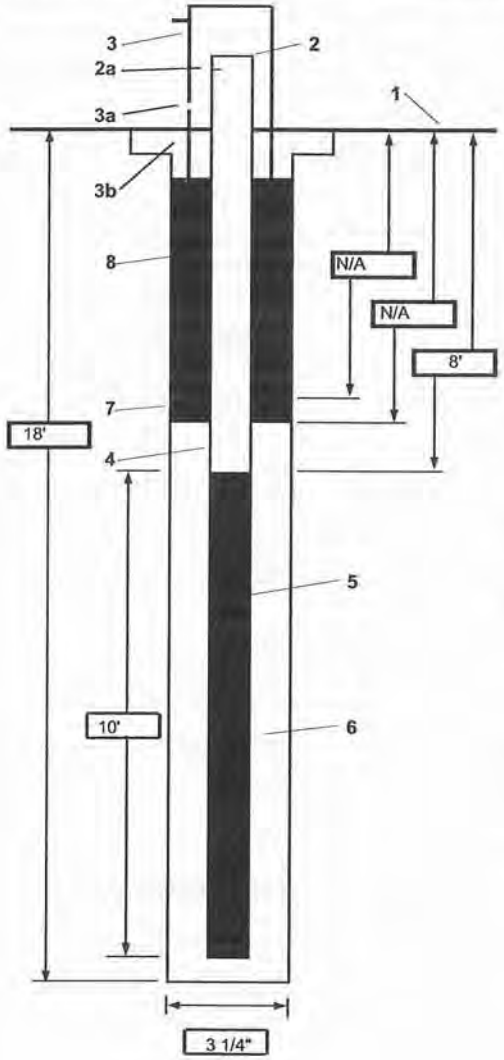
# WELL COMPLETION DIAGRAM

PROJECT : Cherry Point CTO 207 LOCATION : OU5-Site 2

DRILLING CONTRACTOR : Vironex

DRILLING METHOD AND EQUIPMENT USED : Geoprobe

WATER LEVELS : DTW = 14.53 START : 4/15/02; 0950 END : 4/15/02; 1031 LOGGER : Stacin Martin




1- Ground elevation at well: Not available

2- Top of casing elevation (ft AMSL): 18.65
a) vent hole?: N/A

3- Wellhead protection cover type: N/A
a) weep hole?:
b) concrete pad dimensions:

4- Dia./type of well casing: 3/4" ID PVC Schedule 40 PVC

5- Type/slot size of screen: 1-3/4" prepacked screen 0.01 Slot

6- Type screen filter: N/A
a) Quantity used:

7- Type of seal: Bentonite
a) Quantity used: 3 bags

8- Grout
a) Grout mix used: N/A
b) Method of placement:
c) Vol. of well casing grout:

Development method: Peristaltic Pump

Development time: Not available

Estimated purge volume: Not available

Comments: Temporary well - Bentonite seal from top of screen to ground surf

# Appendix F
# Surveyor Report

# MCAS CHERRY POINT
# OU5 SITES 1 & 2

| DESCRIPTION | NORTHING | EASTING | ELEVATION |
|---|---|---|---|
| S1-TW01 | 438,240.33 | 2,637,774.79 | GROUND 23.2<br>PVC 24.42 |
| 1GW01 | 438,224.23 | 2,637,738.56 | GROUND 23.9<br>PVC 25.74 |
| S1-TW02 | 438,473.10 | 2,637,880.22 | GROUND 11.4<br>PVC 12.57 |
| S1-TW03 | 438,575.41 | 2,638,074.91 | GROUND 13.3<br>PVC 14.60 |
| S1-TW04 | 438,591.18 | 2,638,193.03 | GROUND 10.6<br>PVC 11.90 |
| S1-TW06 | 438,859.61 | 2,638,101.49 | GROUND 14.6<br>PVC 15.57 |
| S1-TW11 | 439,084.05 | 2,638,294.80 | GROUND 13.5<br>PVC 14.87 |
| 1GW02 | 439,060.45 | 2,638,319.15 | GROUND 12.7<br>PVC 14.46 |
| S1-TW09 | 439,062.01 | 2,638,430.38 | GROUND 12.2<br>PVC 13.39 |
| S1-TW08 | 439,023.17 | 2,638,390.96 | GROUND 11.2<br>PVC 12.09 |
| S1-TW10 | 439,042.92 | 2,638,510.36 | GROUND 4.7<br>PVC 5.93 |
| S1-TW05 | 438,611.43 | 2,638,384.30 | GROUND 10.7<br>PVC 12.20 |

| | | | |
|---|---|---|---|
| S1-TW07 | 438,776.53 | 2,638,548.22 | GROUND 9.5<br>PVC 11.31 |
| 1GW03 | 439,020.20 | 2,638,752.16 | GROUND 8.5<br>PVC 10.26 |
| 1GW04 | 438,564.72 | 2,638,504.84 | GROUND 20.7<br>PVC 22.23 |
| S2-TW10 | 438,501.87 | 2,638,568.31 | GROUND 16.9<br>PVC 18.15 |
| 2GW02 | 438,661.34 | 2,638,720.28 | GROUND 5.2<br>PVC 7.20 |
| 2GW03 | 438,610.90 | 2,638,740.52 | GROUND 4.5<br>PVC 6.82 |
| S2-TW11 | 438,548.72 | 2,638,744.58 | GROUND 1.9<br>PVC 3.42 |
| 2GW01 | 438,533.95 | 2,638,782.74 | GROUND 1.5<br>PVC 3.85 |
| S2-TW12 | 438,586.19 | 2,638,643.92 | GROUND 17.4<br>PVC 18.65 |
| S2-TW09 | 438,259.54 | 2,638,295.45 | GROUND 17.8<br>PVC 19.27 |
| S2-TW06 | 438,214.80 | 2,638,395.26 | GROUND 14.9<br>PVC 15.91 |
| S2-TW02 | 438,056.82 | 2,638,311.03 | GROUND 14.5<br>PVC 15.67 |
| S2-TW07 | 438,232.44 | 2,638,520.92 | GROUND 8.3<br>PVC 9.58 |
| S2-TW08 | 438,258.06 | 2,638,616.14 | GROUND 6.0<br>PVC 7.36 |

| | | | |
|---|---|---|---|
| S2-TW04 | 438,134.30 | 2,638,531.76 | GROUND 7.6<br>PVC 8.88 |
| S2-TW05 | 438,134.50 | 2,638,600.30 | GROUND 7.3<br>PVC 8.67 |
| S2-TW01 | 438,066.17 | 2,638,604.96 | GROUND 6.74<br>PVC 8.04 |
| S2-TW03 | 438,111.88 | 2,638,727.38 | GROUND 5.1<br>PVC 6.32 |

## SOIL BORINGS

| | | | |
|---|---|---|---|
| S1-SW-SD-01 | 438,567.99 | 2,637,907.55 | 4.1 |
| S1-SO04 | 438,515.40 | 2,637,929.41 | 18.3 |
| S1-SO03 | 438,544.27 | 2,638,093.70 | 18.2 |
| S1-SO02 | 438,549.13 | 2,638,155.78 | 17.2 |
| S1-SO06 | 439,002.61 | 2,638,163.89 | 15.9 |
| S1-S007 | 439,042.67 | 2,638,410.16 | 11.4 |
| S1-SW-SD04 | 439,008.31 | 2,638,034.76 | 1.8 |
| S1-SW-SD06 | 439,204.44 | 2,638,327.56 | 0.8 |
| S1-SO01 | 438,530.07 | 2,638,368.66 | 21.5 |
| S1-SO08 | 439,026.72 | 2,638,756.01 | 7.7 |
| S1-SW-SD08 | 439,170.85 | 2,638,894.98 | 0.4 |
| S2-SW-SD04 | 438,715.28 | 2,638,799.76 | 0.7 |
| S2-SO08 | 438,590.16 | 2,638,686.47 | 13.5 |
| S2-SO06 | 438,536.40 | 2,638,684.58 | 15.1 |
| S2-SO07 | 438,593.24 | 2,638,639.32 | 17.2 |
| S2-SO02 | 438,220.68 | 2,638,385.00 | 15.5 |
| S2-SO05 | 438,280.34 | 2,638,516.30 | 15.0 |
| S2-SO04 | 438,156.70 | 2,638,546.94 | 10.3 |
| S2-SO01 | 438,126.17 | 2,638,601.05 | 8.0 |
| S2-SO03 | 438,147.10 | 2,638,726.85 | 8.5 |
| S2-SW-SD01 | 437,985.91 | 2,638,720.83 | 6.1 |
| S2-SW-SO02 | 438,184.02 | 2,638,829.60 | 3.1 |
| S2-SW-SD03 | 438,242.54 | 2,638,861.04 | 1.7 |
| S2-SW-SD02 | 438,946.32 | 2,638,399.97 | 5.0 |
| S1-SW-SD03 | 439,032.14 | 2,638,443.95 | 4.8 |
| S1-SW-SD07 | 439,080.40 | 2,638,533.44 | 2.2 |
| S1-SO05 | 438,853.00 | 2,638,435.09 | 15.0 |

DATUM (STATION # 28-93 HOR) Horizontal NAD83 E:2,638,527.125 (US FT.)
N: 438,628.157 (US FT.)
Vertical: NAVD88 Elevation = 19.39 (US FT.)

# Appendix G
# RI Field Sampling Parameters

**Table G-1**
**Field Parameter - Groundwater Sampling**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Sample ID | Date | Depth To Water (ft) | Flow (gpm) | Volume Purged (gal) | pH | ORP (MV) | Specific Conductance (mS/cm) | D.O. (mg/L) | Turbidity (NTU) | Salinity % | Temperature (˚C) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Site 1 | | | | | | | | | | | |
| 1MW02 | 04/17/2002 | 12.3 | 0.032 | 1.5 | 6.98 | 142 | 0.545 | 4.9 | 1.2 | 0 | 18.7 |
| 1MW03 | 04/17/2002 | 7.95 | 0.026 | 8.75 | 5.95 | 14 | 0.474 | 0.52 | 70 | 0 | 17.8 |
| 1MW04 | 04/15/2002 | 18.74 | 0.021 | 4.7 | 6.59 | -50 | 0.548 | 0.41 | 28.7 | 0 | 18.9 |
| S1-TW01 | 04/26/2002 | 12.99 | 0.035 | 1.5 | 4.49 | 30 | 0.246 | 2.25 | 0 | 0 | 16.2 |
| S1-TW02 | 04/25/2002 | 6.79 | 0.043 | 2 | 5.79 | -292 | 0.27 | 1.27 | 2.4 | 0 | 16.5 |
| S1-TW03 | 04/25/2002 | 9.32 | 0.043 | 3 | 6.8 | 30 | 0.435 | 1.24 | 0 | 0 | 11.5 |
| S1-TW04 | 04/25/2002 | 6.89 | 0.043 | 5 | 7.07 | 11 | 0.443 | 2.97 | 29.8 | 0 | 16.7 |
| S1-TW05 | 04/25/2002 | 7.65 | 0.032 | 3.7 | 5.74 | 37 | 0.636 | 1.36 | 21.6 | 0 | 16.2 |
| S1-TW06 | 04/25/2002 | 11.84 | 0.043 | 2 | 6.72 | NM | 0.316 | NM | 28.5 | NM | NM |
| S1-TW07 | 04/25/2002 | 7.68 | 0.043 | 3.5 | 6.61 | 37 | 1.05 | 0.44 | 25.6 | 0 | 16.8 |
| S1-TW08 | 04/25/2002 | 9.3 | 0.021 | 2 | 6.55 | 173 | 0.508 | 1.4 | 28.2 | 0 | 16.6 |
| S1-TW09 | 04/25/2002 | 11.14 | 0.03 | 2.5 | 6.49 | 9 | 0.49 | 1.09 | 0 | 0 | 16.5 |
| S1-TW10 | 04/25/2002 | 3.96 | 0.043 | 3 | 6.07 | -62 | 0.725 | 0.41 | 183 | 0 | 16.9 |
| S1-TW11 | 04/25/2002 | 12.31 | 0.032 | 1.25 | 6.88 | 85 | 0.46 | 4.35 | 26.1 | 0 | 16.8 |
| Site 2 | | | | | | | | | | | |
| 2MW01 | 04/16/2002 | 1.41 | 0.043 | 4 | 7.07 | -101 | 0.445 | 0.36 | 24.7 | 0 | 18.3 |
| 2MW02 | 04/15/2002 | 4.7 | 0.043 | 2.3 | 6.13 | 50 | 0.885 | 0.42 | 35.5 | 0 | 17 |
| 2MW03 | 04/17/2002 | 8.51 | 0.03 | 3.5 | 6.52 | -55 | 1.07 | 7.32 | 33.4 | 0 | 17.2 |
| S2-TW01 | 04/26/2002 | 4.36 | 0.032 | 1.75 | 5.85 | 75 | 0.297 | 0.28 | 33.1 | 0 | 15.9 |
| S2-TW02 | 04/25/2002 | 9.64 | 0.026 | 3 | 5.16 | 191 | 0.157 | 7.87 | 0 | 0 | 17.1 |
| S2-TW03 | 04/26/2002 | 6.49 | 0.035 | 2.5 | 6.47 | -158 | 0.459 | 3.68 | 122 | 0 | 15.8 |
| S2-TW04 | 04/26/2002 | 4.06 | 0.048 | 2.5 | 5.94 | 12 | 0.265 | 1.84 | 13.2 | 0 | 15.9 |
| S2-TW05 | 04/26/2002 | 4.11 | 0.043 | 2 | 5.73 | 110 | 0.229 | 0.27 | 19 | 0 | 15.9 |
| S2-TW06 | 04/25/2002 | 10.5 | 0.032 | 2 | 5.54 | 93 | 0.227 | 0.29 | 14.3 | 0 | 16.2 |
| S2-TW07 | 04/26/2002 | 4.65 | 0.043 | 1.75 | 5.59 | 119 | 0.144 | 0.32 | 33.7 | 0 | 15.8 |
| S2-TW08 | 04/26/2002 | 2.76 | 0.043 | 1.5 | 6.04 | 77 | 0.247 | 0.39 | 57.6 | 0 | 15.7 |
| S2-TW09 | 04/25/2002 | 13.58 | 0.043 | 2 | 4.99 | 149 | 0.235 | 0.4 | 39.6 | 0 | 17.3 |
| S2-TW10 | 04/26/2002 | 13.77 | 0.039 | 1.2 | 6.42 | -198 | 1.21 | 10.38 | 24.3 | 0.1 | 16 |
| S2-TW11 | 04/26/2002 | 1.55 | 0.043 | 1.5 | 6.14 | -3 | 0.724 | 0.54 | 33.6 | 0 | 16.3 |
| S2-TW12 | 04/26/2002 | 14.94 | 0.026 | 1 | 6.79 | 14 | 1.68 | 1.78 | 0 | 0.1 | 16.4 |

Notes:
D.O. - dissolved oxygen
NM - Not measured
ORP - oxidation reduction potential

**Table G-2**
**Field Parameter - Surface Water Sampling**
**OU5 Remedial Investigation**
**MCAS Cherry Point**

| Sample ID | Date | pH | ORP (MV) | Specific Conductance (mS/cm) | D.O. (mg/L) | Turbidity (NTU) | Salinity % | Temperature (°C) |
|---|---|---|---|---|---|---|---|---|
| Site 1 | | | | | | | | |
| S1-SW02 | 04/24/02 | 7.2 | 244 | 0.168 | 5.08 | 139 | 0 | 19.4 |
| S1-SW03 | 04/24/02 | 7.36 | 124 | 0.214 | 5.98 | 10 | 0 | 19.3 |
| S1-SW04 | 04/26/02 | 6.25 | 31 | 8.86 | 7.26 | 92.3 | 0.5 | 17.8 |
| S1-SW05 | 04/24/02 | 7.76 | 205 | 15.7 | 8.22 | 10 | 0.9 | 23.4 |
| S1-SW06 | 04/24/02 | 7.77 | 183 | 17.6 | 7.44 | 10 | 1 | 24.2 |
| S1-SW07 | 04/24/02 | 7.46 | 181 | 14.7 | 8.4 | 10 | 0.9 | 20 |
| S1-SW08 | 04/24/02 | 8.74 | 181 | 26.2 | 10.63 | 10 | 1.3 | 23.3 |
| Site 2 | | | | | | | | |
| S2-SW01 | 04/24/02 | 6.7 | 0.56 | 0.341 | 9.59 | 258 | 0 | 20.8 |
| S2-SW02 | 04/24/02 | 6.19 | 33 | 0.518 | 4.87 | 99 | 0 | 16.9 |
| S2-SW03 | 04/23/02 | 7.2 | -59 | 0.501 | 6.64 | 47.6 | 0 | 18.6 |
| S2-SW04 | 04/23/02 | 6.73 | 144 | 12.3 | 4.26 | 610 | 0.7 | 23.4 |
| S2-SW05 | 04/24/02 | 8.87 | 169 | 25.8 | 11.43 | 10 | 1.6 | 23.9 |

Notes:
D.O. - dissolved oxygen
ORP - oxidation reduction potential

# Appendix H
# Analyte Statistics by Media

## Table H-1
## Surface Soil Statistics for Site 1
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/KG) | | | | | | | | |
| 2-Butanone | 1 - 8 | 14 | 14 | OU5-S1-SS04-01 | 3.9375 | 1.131636557 | 4.065863992 | 0.60909 |
| Acetone | 2 - 8 | 56 | 220 | OU5-S1-SS04-01 | 38.5625 | 2.240053009 | 75.51605198 | 1.69933 |
| Trichlorofluoromethane(Freon-11) | 6 - 8 | 4 | 9 | OU5-S1-SS04-01 | 5 | 1.512589016 | 2.375469878 | 0.4708429 |
| | | | | | | | | |
| Total Metals (MG/KG) | | | | | | | | |
| Arsenic | 8 - 8 | 0.98 | 4.9 | OU5-S1-SS07-01 | 2.21 | 0.687407106 | 1.202236012 | 0.4739832 |
| Barium | 8 - 8 | 8.8 | 24 | OU5-S1-SS03-01 | 17.75 | 2.825003559 | 5.564941278 | 0.3587799 |
| Cadmium | 8 - 8 | 0.03 | 0.07 | OU5-S1-SS01-01 | 0.045 | -3.172129776 | 0.018516402 | 0.3971872 |
| Chromium | 8 - 8 | 4.3 | 17.4 | OU5-S1-SS03-01 | 10.875 | 2.300260268 | 4.56187618 | 0.461711 |
| Lead | 8 - 8 | 5.7 | 34.6 | OU5-S1-SS08-01 | 11.65 | 2.27272857 | 9.527404084 | 0.5752153 |
| Mercury | 7 - 8 | 0.02 | 0.05 | OU5-S1-SS04-01 | 0.0325 | -3.522833592 | 0.012817399 | 0.5180261 |
| Selenium | 8 - 8 | 0.37 | 0.62 | OU5-S1-SS02-01 | 0.4675 | -0.774335781 | 0.084642104 | 0.177815 |
| | | | | | | | | |
| Wet Chemistry (MG/KG) | | | | | | | | |
| % Solids | 8 - 8 | 70 | 92 | OU5-S1-SS02-01 | 86.75 | 4.459680928 | 7.206148169 | 0.0898113 |
| Total organic carbon (TOC) | 4 - 4 | 2700 | 32900 | OU5-S1-SS01-01 | 17475 | 9.447818745 | 12417.29305 | 1.079915 |
| pH | 4 - 4 | 4.5 | 10.6 | OU5-S1-SS01-01 | 6.4 | 1.794779351 | 2.829605391 | 0.3861801 |

## Table H-2
## Subsurface Soil Statistics for Site 1
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/KG) | | | | | | | | |
| Acetone | 4 - 8 | 5 | 7 | OU5-S1-SB02-04 | 5.375 | 1.571664568 | 2.761340254 | 0.5024802 |
| Chloroform | 1 - 8 | 4 | 4 | OU5-S1-SB07-04 | 3 | 1.079372028 | 0.654653671 | 0.2054699 |
| Trichlorofluoromethane(Freon-11) | 6 - 8 | 7 | 48 | OU5-S1-SB07-04 | 15.125 | 2.283724964 | 15.14866802 | 1.0324236 |
| | | | | | | | | |
| Total Metals (MG/KG) | | | | | | | | |
| Arsenic | 8 - 8 | 1.3 | 6.6 | OU5-S1-SB04-04 | 2.925 | 0.891197255 | 2.048518629 | 0.6172931 |
| Barium | 8 - 8 | 12.4 | 34.3 | OU5-S1-SB07-04 | 21.2625 | 2.983672888 | 8.764202759 | 0.4076262 |
| Chromium | 8 - 8 | 7.4 | 22 | OU5-S1-SB07-04 | 15.9625 | 2.668264858 | 6.785054479 | 0.5111994 |
| Lead | 8 - 8 | 4.2 | 11.3 | OU5-S1-SB03-04 | 7.1125 | 1.911612491 | 2.392510636 | 0.3411274 |
| Mercury | 6 - 8 | 0.01 | 0.04 | OU5-S1-SB03-04 | 0.015 | -4.431883391 | 0.011649647 | 0.7174755 |
| Selenium | 1 - 8 | 0.41 | 0.41 | OU5-S1-SB01-04 | 0.24375 | -1.442300975 | 0.071850539 | 0.2517493 |
| | | | | | | | | |
| Wet Chemistry (MG/KG) | | | | | | | | |
| % Solids | 8 - 8 | 72 | 90 | OU5-S1-SB08-04 | 82.5 | 4.410562982 | 5.830951895 | 0.0719058 |

## Table H-3
## Monitoring Well Statistics for Site 1
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/L) | | | | | | | | |
| Acetone | 1 - 3 | 3 | 3 | OU5-1GW02 | 2.666666667 | 0.977064584 | 0.288675135 | 0.1052634 |
| | | | | | | | | |
| Total Metals (UG/L) | | | | | | | | |
| Arsenic | 2 - 3 | 3.7 | 5.8 | OU5-1GW03 | 3.513333333 | 1.03513715 | 2.385483878 | 0.89129421 |
| Barium | 3 - 3 | 11.6 | 37.3 | OU5-1GW04 | 23.3 | 3.038173621 | 13.00346108 | 0.58402 |

## Table H-4
## Temporary Monitoring Well Statistics for Site 1
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/L) | | | | | | | | |
| 1,1-Dichloroethene | 3 - 11 | 2 | 2 | OU5-S1-TW05 | 0.909090909 | -0.3150669 | 0.70064905 | 0.6475372 |
| Chloroform | 2 - 11 | 0.9 | 1 | OU5-S1-TW09 | 0.581818182 | -0.576698649 | 0.183402191 | 0.2601506 |
| | | | | | | | | |
| Total Metals (UG/L) | | | | | | | | |
| Arsenic | 2 - 11 | 5.8 | 9.4 | OU5-S1-TW10 | 2.232727273 | 0.39559582 | 2.77306001 | 0.800202 |
| Barium | 11 - 11 | 2.1 | 85.1 | OU5-S1-TW03 | 38.42727273 | 3.242721457 | 27.93081062 | 1.1309136 |
| Chromium | 4 - 11 | 1.5 | 6.2 | OU5-S1-TW02 | 1.406818182 | -0.18517107 | 1.789521267 | 0.9890365 |
| Lead | 5 - 11 | 2.4 | 3.6 | OU5-S1-TW02 | 1.967272727 | 0.54418668 | 1.056731668 | 0.5371814 |
| Mercury | 1 - 11 | 0.75 | 0.75 | OU5-S1-TW01 | 0.080454545 | -4.029498265 | 0.22214246 | 1.3206314 |
| | | | | | | | | |
| Dissolved Metals (UG/L) | | | | | | | | |
| Arsenic | 1 - 2 | 9.8 | 9.8 | OU5-S1-TW10 | 5.42 | 1.160801549 | 6.194255403 | 1.5861548 |
| Barium | 2 - 2 | 42.7 | 65.4 | OU5-S1-TW07 | 54.05 | 3.967360589 | 16.05132393 | 0.3014561 |

## Table H-5
## Surface Water Statistics for Site 1
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Total Metals (UG/L) | | | | | | | | |
| Arsenic | 1 - 7 | 2.5 | 2.5 | OU5-S1-SW02 | 1.842857143 | 0.394436132 | 1.577188578 | 0.6424298 |
| Barium | 7 - 7 | 12.2 | 42.9 | OU5-S1-SW04 | 35.31428571 | 3.497828327 | 10.7262029 | 0.4485784 |
| Chromium | 5 - 7 | 0.96 | 1.3 | OU5-S1-SW03 | 1.205 | 0.119632909 | 0.475315685 | 0.4023814 |
| Lead | 3 - 7 | 2.8 | 3.4 | OU5-S1-SW02 | 2.617142857 | 0.775902711 | 1.647257461 | 0.6755967 |
| Silver | 2 - 7 | 2 | 2.4 | OU5-S1-SW05 | 1.464285714 | 0.146305607 | 1.080398956 | 0.7335512 |
| | | | | | | | | |
| Dissolved Metals (UG/L) | | | | | | | | |
| Barium | 6 - 7 | 10.4 | 44.8 | OU5-S1-SW04 | 31.77142857 | 3.227848059 | 16.5671074 | 0.8668499 |
| Lead | 2 - 7 | 2.6 | 3 | OU5-S1-SW04 | 4.07 | 1.274680552 | 1.816764523 | 0.6129374 |
| | | | | | | | | |
| Wet Chemistry (MG/L) | | | | | | | | |
| Dissolved organic carbon | 7 - 7 | 3 | 24 | OU5-S1-SW03 | 9.614285714 | 2.068920363 | 6.877603403 | 0.6729069 |
| Hardness | 7 - 7 | 67 | 2200 | OU5-S1-SW05 | 1006.857143 | 6.299510824 | 819.8882909 | 1.4816625 |
| Total organic carbon (TOC) | 7 - 7 | 1 | 26 | OU5-S1-SW02 | 11.54285714 | 1.951392047 | 10.38393906 | 1.2202599 |

## Table H-6
## Sediment Statistics for Site 1
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/KG) | | | | | | | | |
| 2-Butanone | 1 - 8 | 72 | 72 | OU5-S1-SD04-00 | 21.6875 | 2.627912647 | 23.06347994 | 1.0059324 |
| Carbon disulfide | 1 - 8 | 18 | 18 | OU5-S1-SD08-00 | 16.625 | 2.551691951 | 11.38843398 | 0.8195925 |
| Trichlorofluoromethane(Freon-11) | 7 - 8 | 4 | 76 | OU5-S1-SD05-00 | 32.6875 | 3.099220131 | 27.55376238 | 1.01639 |
| | | | | | | | | |
| Semi-volatile Organic Compounds (UG/KG) | | | | | | | | |
| Di-n-octylphthalate | 1 - 8 | 790 | 790 | OU5-S1-SD01-00 | 716.25 | 6.391536911 | 425.2121319 | 0.6726969 |
| Dibenz(a,h)anthracene | 1 - 8 | 660 | 660 | OU5-S1-SD01-00 | 700 | 6.369062772 | 424.474465 | 0.6649458 |
| | | | | | | | | |
| Total Metals (MG/KG) | | | | | | | | |
| Arsenic | 8 - 8 | 1.7 | 9.9 | OU5-S1-SD06-00 | 3.65 | 1.102387505 | 2.80611577 | 0.616578 |
| Barium | 8 - 8 | 6.5 | 66.7 | OU5-S1-SD01-00 | 31.3875 | 3.247659821 | 19.41166347 | 0.7253115 |
| Cadmium | 8 - 8 | 0.06 | 1.3 | OU5-S1-SD05-00 | 0.3725 | -1.50981139 | 0.424188301 | 1.0898034 |
| Chromium | 8 - 8 | 5.9 | 27.8 | OU5-S1-SD02-00 | 16.2625 | 2.67530319 | 8.057815638 | 0.5218226 |
| Lead | 8 - 8 | 6.7 | 46.4 | OU5-S1-SD05-00 | 17.575 | 2.667567011 | 13.46421182 | 0.6342316 |
| Mercury | 8 - 8 | 0.02 | 0.39 | OU5-S1-SD05-00 | 0.11375 | -2.646382071 | 0.124778375 | 1.0421372 |
| Selenium | 8 - 8 | 0.52 | 2.74 | OU5-S1-SD06-00 | 1.38125 | 0.147381412 | 0.860986768 | 0.6367197 |
| Silver | 8 - 8 | 0.16 | 0.82 | OU5-S1-SD06-00 | 0.41375 | -1.066509153 | 0.266133023 | 0.6468638 |
| | | | | | | | | |
| Wet Chemistry (MG/KG) | | | | | | | | |
| % Solids | 8 - 8 | 13 | 69 | OU5-S1-SD02-00 | 35.625 | 3.391710674 | 21.28673296 | 0.669277 |
| Total organic carbon (TOC) | 8 - 8 | 9870 | 351000 | OU5-S1-SD06-00 | 129658.75 | 11.09166461 | 134452.6817 | 1.4041531 |
| pH | 8 - 8 | 5 | 7 | OU5-S1-SD05-00 | 6.375 | 1.847663436 | 0.629625739 | 0.10657 |

## Table H-7
## Surface Soil Statistics for Site 2
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/KG) | | | | | | | | |
| 2-Butanone | 1 - 8 | 10 | 10 | OU5-S2-SS07-01 | 3.5 | 1.112367722 | 2.632217968 | 0.4851338 |
| Trichlorofluoromethane(Freon-11) | 6 - 8 | 3 | 24 | OU5-S2-SS05-01 | 6.25 | 1.499418952 | 7.280109889 | 0.7492423 |
| | | | | | | | | |
| Semi-volatile Organic Compounds (UG/KG) | | | | | | | | |
| Benzaldehyde | 1 - 8 | 280 | 280 | OU5-S2-SS05-01 | 199.375 | 5.283566157 | 35.09553289 | 0.1568472 |
| | | | | | | | | |
| Total Metals (MG/KG) | | | | | | | | |
| Arsenic | 8 - 8 | 1.1 | 4.1 | OU5-S2-SS07-01 | 2.6 | 0.901384891 | 0.834950811 | 0.3743414 |
| Barium | 8 - 8 | 9.1 | 106 | OU5-S2-SS05-01 | 25.4125 | 2.860635521 | 32.72772689 | 0.7675612 |
| Cadmium | 8 - 8 | 0.03 | 0.7 | OU5-S2-SS05-01 | 0.13875 | -2.797663241 | 0.235094966 | 1.1864471 |
| Chromium | 8 - 8 | 4.5 | 12.8 | OU5-S2-SS08-01 | 10.1625 | 2.278260282 | 2.602162562 | 0.3328646 |
| Lead | 8 - 8 | 3.8 | 33.5 | OU5-S2-SS05-01 | 15.4875 | 2.49636138 | 11.30542695 | 0.7610808 |
| Mercury | 8 - 8 | 0.02 | 0.16 | OU5-S2-SS05-01 | 0.0575 | -3.220844369 | 0.057755643 | 0.853403 |
| Selenium | 7 - 8 | 0.39 | 0.5 | OU5-S2-SS08-01 | 0.405 | -0.938076466 | 0.095618289 | 0.30541 |
| | | | | | | | | |
| Wet Chemistry (MG/KG) | | | | | | | | |
| % Solids | 9 - 9 | 75 | 93 | OU5-S2-SS03-01 | 86.77777778 | 4.461291408 | 5.761462006 | 0.0689284 |
| Total organic carbon (TOC) | 1 - 1 | 6900 | 6900 | OU5-S2-SS04-01 | 6900 | 8.839276691 | Error! | Error! |
| pH | 4 - 4 | 5.5 | 6.4 | OU5-S2-SS04-01 | 5.95 | 1.781939476 | 0.36968455 | 0.0622708 |

## Table H-8
## Subsurface Soil Statistics for Site 2
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/KG) | | | | | | | | |
| Acetone | 2 - 8 | 3 | 12 | OU5-S2-SB02-04 | 4.1875 | 1.267381703 | 3.261654926 | 0.5417714 |
| Styrene | 1 - 8 | 5 | 5 | OU5-S2-SB06-04 | 2.9375 | 1.048514519 | 0.8634441 | 0.2411491 |
| Trichlorofluoromethane(Freon-11) | 8 - 8 | 10 | 90 | OU5-S2-SB06-04 | 34.875 | 3.322249554 | 26.45447572 | 0.7217167 |
| | | | | | | | | |
| Semi-volatile Organic Compounds (UG/KG) | | | | | | | | |
| Anthracene | 1 - 8 | 430 | 430 | OU5-S2-SB06-04 | 221.25 | 5.354490653 | 84.92643876 | 0.2913025 |
| Benzaldehyde | 1 - 8 | 350 | 350 | OU5-S2-SB05-04 | 213.75 | 5.341929211 | 55.78978401 | 0.213861 |
| Benzo(a)anthracene | 1 - 8 | 1300 | 1300 | OU5-S2-SB06-04 | 330 | 5.492782445 | 392.0641347 | 0.6797492 |
| Benzo(a)pyrene | 1 - 8 | 930 | 930 | OU5-S2-SB06-04 | 283.75 | 5.450915576 | 261.3119373 | 0.5617541 |
| Benzo(b)fluoranthene | 1 - 8 | 1500 | 1500 | OU5-S2-SB06-04 | 355 | 5.510670051 | 462.7557208 | 0.7302042 |
| Benzo(g,h,i)perylene | 1 - 8 | 600 | 600 | OU5-S2-SB06-04 | 242.5 | 5.396133709 | 144.790489 | 0.4077302 |
| Benzo(k)fluoranthene | 1 - 8 | 410 | 410 | OU5-S2-SB06-04 | 218.75 | 5.348537147 | 77.90791267 | 0.2747519 |
| Chrysene | 1 - 8 | 1400 | 1400 | OU5-S2-SB06-04 | 342.5 | 5.502045942 | 427.4091382 | 0.705876 |
| Fluoranthene | 2 - 8 | 290 | 2700 | OU5-S2-SB06-04 | 516.25 | 5.630588828 | 883.1103717 | 0.9306005 |
| Indeno(1,2,3-cd)pyrene | 1 - 8 | 720 | 720 | OU5-S2-SB06-04 | 257.5 | 5.418923904 | 187.1401308 | 0.4717334 |
| Phenanthrene | 2 - 8 | 220 | 1500 | OU5-S2-SB06-04 | 357.5 | 5.522583823 | 461.8518625 | 0.7270151 |
| Pyrene | 2 - 8 | 210 | 2000 | OU5-S2-SB06-04 | 418.75 | 5.55272908 | 639.026883 | 0.829783 |
| | | | | | | | | |
| Total Metals (MG/KG) | | | | | | | | |
| Arsenic | 8 - 8 | 0.28 | 3.8 | OU5-S2-SB04-04 | 2.46 | 0.703868268 | 1.108770233 | 0.8415792 |
| Barium | 8 - 8 | 6.8 | 33.9 | OU5-S2-SB05-04 | 17.1375 | 2.708916856 | 8.912100522 | 0.5727486 |
| Cadmium | 3 - 8 | 0.04 | 0.28 | OU5-S2-SB05-04 | 0.066875 | -3.432059968 | 0.096323024 | 1.1833688 |
| Chromium | 8 - 8 | 2.7 | 13.8 | OU5-S2-SB02-04 | 9.3875 | 2.12960665 | 3.746021699 | 0.5631883 |
| Lead | 8 - 8 | 2.2 | 22.2 | OU5-S2-SB05-04 | 9.3875 | 2.049307656 | 6.128257151 | 0.6870907 |
| Mercury | 6 - 8 | 0.01 | 0.12 | OU5-S2-SB05-04 | 0.03875 | -3.882577247 | 0.043486451 | 1.2487193 |
| Selenium | 1 - 8 | 0.42 | 0.42 | OU5-S2-SB05-04 | 0.2375 | -1.470373269 | 0.075356297 | 0.2540433 |
| | | | | | | | | |
| Wet Chemistry (MG/KG) | | | | | | | | |
| % Solids | 8 - 8 | 82 | 90 | OU5-S2-SB03-04 | 85.125 | 4.443533357 | 3.136763573 | 0.0365389 |

## Table H-9
## Monitoring Well Statistics for Site 2
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/L) | | | | | | | | |
| Acetone | 1 - 3 | 4 | 4 | OU5-2GW02 | 3 | 1.072958608 | 0.866025404 | 0.27135672 |
| Benzene | 1 - 3 | 1 | 1 | OU5-2GW01 | 0.666666667 | -0.46209812 | 0.288675135 | 0.40018871 |
| | | | | | | | | |
| Total Metals (UG/L) | | | | | | | | |
| Arsenic | 2 - 3 | 3.3 | 5.2 | OU5-2GW03 | 3.18 | 0.960600602 | 2.082594536 | 0.8296999 |
| Barium | 3 - 3 | 10.6 | 27.8 | OU5-2GW01 | 19.93333333 | 2.916426981 | 8.693292433 | 0.49860861 |

## Table H-10
## Temporary Monitoring Well Statistics for Site 2
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | | | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| Volatile Organic Compounds (UG/L) | | | | | | | | | | |
| 1,1-Dichloroethene | 9 | - | 12 | 0.5 | 2 | OU5-S2-TW02 | 0.966666667 | -0.152715122 | 0.528003673 | 0.4956576 |
| Benzene | 1 | - | 12 | 2 | 2 | OU5-S2-TW03 | 0.625 | -0.57762265 | 0.433012702 | 0.4001887 |
| Chloroethane | 1 | - | 12 | 0.6 | 0.6 | OU5-S2-TW04 | 0.508333333 | -0.677953717 | 0.028867513 | 0.0526317 |
| cis-1,2-Dichloroethene | 1 | - | 12 | 9 | 9 | OU5-S2-TW03 | 1.208333333 | -0.452282867 | 2.453738644 | 0.8343785 |
| | | | | | | | | | | |
| Total Metals (UG/L) | | | | | | | | | | |
| Barium | 12 | - | 12 | 9.8 | 89.7 | OU5-S2-TW06 | 33.69166667 | 3.285766285 | 24.13057127 | 0.7195044 |
| Cadmium | 2 | - | 12 | 0.65 | 0.67 | OU5-S2-TW03 | 0.243333333 | -1.596422927 | 0.19467144 | 0.5515854 |
| Chromium | 2 | - | 12 | 1.4 | 29.3 | OU5-S2-TW03 | 3.04375 | -0.180023891 | 8.273809479 | 1.186501 |
| Lead | 7 | - | 12 | 2.2 | 6.5 | OU5-S2-TW03 | 2.279166667 | 0.659049213 | 1.539046094 | 0.5771756 |
| | | | | | | | | | | |
| Dissolved Metals (UG/L) | | | | | | | | | | |
| Barium | 3 | - | 3 | 7.5 | 33.8 | OU5-S2-TW11 | 23.4 | 2.966401806 | 13.98606449 | 0.8277348 |
| Lead | 1 | - | 3 | 2.3 | 2.3 | OU5-S2-TW08 | 1.493333333 | 0.335088172 | 0.698593826 | 0.4311256 |

## Table H-11
## Surface Water Statistics for Site 2
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/L) | | | | | | | | |
| Acetone | 3 - 5 | 4 | 24 | OU5-S2-SW03 | 7.4 | 1.556644803 | 9.309940924 | 0.9363643 |
| Toluene | 1 - 5 | 0.6 | 0.6 | OU5-S2-SW02 | 0.52 | -0.656682869 | 0.04472136 | 0.0815367 |
| | | | | | | | | |
| Semivolatile Organic Compounds (UG/L) | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | 1 - 5 | 5 | 5 | OU5-S2-SW01 | 3 | 1.054920168 | 1.118033989 | 0.3099848 |
| 2,4,5-Trichlorophenol | 1 - 5 | 20 | 20 | OU5-S2-SW01 | 12 | 2.441214529 | 4.472135955 | 0.3099848 |
| | | | | | | | | |
| Total Metals (UG/L) | | | | | | | | |
| Arsenic | 3 - 5 | 2.4 | 7.6 | OU5-S2-SW03 | 3.136 | 0.852598451 | 2.714347067 | 0.8498644 |
| Barium | 5 - 5 | 29.7 | 66.4 | OU5-S2-SW03 | 42 | 3.694484737 | 14.67940734 | 0.3189329 |
| Cadmium | 1 - 5 | 0.43 | 0.43 | OU5-S2-SW05 | 0.214 | -1.634859185 | 0.120747671 | 0.4421205 |
| Chromium | 4 - 5 | 0.92 | 9.3 | OU5-S2-SW03 | 2.789 | 0.453858561 | 3.680842974 | 1.1409791 |
| Lead | 2 - 5 | 2.8 | 3 | OU5-S2-SW01 | 1.814 | 0.477352959 | 0.993896373 | 0.5361939 |
| Silver | 1 - 5 | 2 | 2 | OU5-S2-SW05 | 0.92 | -0.205996897 | 0.603738354 | 0.5026368 |
| | | | | | | | | |
| Dissolved Metals (UG/L) | | | | | | | | |
| Arsenic | 2 - 5 | 2.1 | 2.8 | OU5-S2-SW03 | 1.604 | 0.37784378 | 0.810974722 | 0.4747032 |
| Barium | 5 - 5 | 22.6 | 41.6 | OU5-S2-SW04 | 30.9 | 3.395026833 | 9.353608929 | 0.2962442 |
| Chromium | 4 - 5 | 0.97 | 3.1 | OU5-S2-SW02 | 1.439 | 0.162118121 | 1.018322149 | 0.7265912 |
| Silver | 3 - 5 | 1.7 | 2.3 | OU5-S2-SW05 | 1.44 | 0.228765086 | 0.752828002 | 0.6117109 |
| | | | | | | | | |
| Wet Chemistry (MG/L) | | | | | | | | |
| Dissolved organic carbon | 5 - 5 | 12 | 17 | OU5-S2-SW04 | 14.8 | 2.687563249 | 1.923538406 | 0.1344298 |
| Hardness | 5 - 5 | 140 | 2100 | OU5-S2-SW05 | 742 | 6.090063567 | 832.4782279 | 1.1342834 |
| Total organic carbon (TOC) | 5 - 5 | 13 | 35 | OU5-S2-SW03 | 19.2 | 2.881766376 | 9.121403401 | 0.4052437 |

## Table H-12
## Sediment Statistics for Site 2
## Sites 1 and 2 Remedial Investigation
## MCAS Cherry Point

| AnalyteName | Detection Frequency | Minimum Detected Concentration | Maximum Detected Concentration | SampleID of Maximum Detected Value | Mean Value (Norm) | Mean Value (Ln) | Standard Deviation (Norm) | Standard Deviation (Ln) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Volatile Organic Compounds (UG/KG) | | | | | | | | |
| 2-Butanone | 1 - 5 | 110 | 110 | OU5-S2-SD04-00 | 28.4 | 2.275008352 | 46.32817717 | 1.5895325 |
| Carbon disulfide | 1 - 5 | 30 | 30 | OU5-S2-SD05-00 | 12.2 | 2.005847752 | 12.55786606 | 1.1242603 |
| Toluene | 1 - 5 | 96 | 96 | OU5-S2-SD01-00 | 29.2 | 2.636963946 | 38.41484088 | 1.4157861 |
| Trichlorofluoromethane(Freon-11) | 4 - 5 | 10 | 110 | OU5-S2-SD05-00 | 40 | 3.074815228 | 42.59694825 | 1.3993681 |
| | | | | | | | | |
| Total Metals (MG/KG) | | | | | | | | |
| Arsenic | 5 - 5 | 1.4 | 4.2 | OU5-S2-SD05-00 | 2.86 | 0.937649166 | 1.374045123 | 0.5561537 |
| Barium | 5 - 5 | 9.7 | 32 | OU5-S2-SD04-00 | 20.7 | 2.925702658 | 10.00224975 | 0.5245369 |
| Cadmium | 5 - 5 | 0.07 | 0.72 | OU5-S2-SD05-00 | 0.268 | -1.649988485 | 0.263191945 | 0.8853664 |
| Chromium | 5 - 5 | 3.6 | 31 | OU5-S2-SD05-00 | 14.54 | 2.443534058 | 10.4397318 | 0.8062759 |
| Lead | 5 - 5 | 4.2 | 39.2 | OU5-S2-SD04-00 | 15.2 | 2.387260301 | 14.47808689 | 0.8929344 |
| Mercury | 5 - 5 | 0.02 | 0.14 | OU5-S2-SD04-00 | 0.062 | -3.181891357 | 0.058480766 | 1.0034031 |
| Selenium | 2 - 5 | 1.85 | 2 | OU5-S2-SD05-00 | 0.91 | -0.614399052 | 0.928298174 | 1.1614412 |
| Silver | 2 - 5 | 0.56 | 0.6 | OU5-S2-SD05-00 | 0.275 | -1.801800162 | 0.27883687 | 1.149672 |
| | | | | | | | | |
| Wet Chemistry (MG/KG) | | | | | | | | |
| % Solids | 5 - 5 | 19 | 79 | OU5-S2-SD01-00 | 52 | 3.766001438 | 30.05827673 | 0.7298684 |
| Total organic carbon (TOC) | 5 - 5 | 4050 | 214000 | OU5-S2-SD04-00 | 68206 | 10.03310854 | 91641.41902 | 1.8005885 |
| pH | 5 - 5 | 5.7 | 6.8 | OU5-S2-SD04-00 | 6.26 | 1.832557072 | 0.397492138 | 0.0638165 |

# Appendix I
# Human Health Risk Assessment Tables

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 1

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Current | Groundwater | Groundwater | Tap Water | Resident | Adult | Dermal Absorption | On-site | None | Groundwater not currently used on site as a water supply. |
| | | | | | | Ingestion | On-site | None | Groundwater not currently used on site as a water supply. |
| | | | | | Child | Dermal Absorption | On-site | None | Groundwater not currently used on site as a water supply. |
| | | | | | | Ingestion | On-site | None | Groundwater not currently used on site as a water supply. |
| Current/Future | Surface Soil | Surface Soil | Site 1 Surface Soil | Industrial Worker | Adult | Dermal Absorption | On-site | Quant | Site workers could contact surface soil while performing activities at the site. |
| | | | | | | Ingestion | On-site | Quant | Site workers could contact surface soil while performing activities at the site. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | Quant | Public can access the site and may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Public can access the site and may contact surface soil. |
| | | Air | Emissions from Site 1 Surface Soil | Industrial Worker | Adult | Inhalation | On-site | Quant | Site workers may inhale vapors and dust from areas of site disturbed during activites at the site. |
| | | | | Trespasser/Visitor | Adolescents | Inhalation | On-site | Quant | Public can access the site and inhale vapors and dust. |
| | Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Industrial Worker | Adult | Dermal Absorption | On-site | Quant | Site workers could contact surface water while performing maintenance activities on the surface water bodies. |
| | | | | | | Ingestion | On-site | Quant | Site workers could contact surface water while performing maintenance activities on the surface water bodies. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | Quant | Public can access the site and may contact surface water. |
| | | | | | | Ingestion | On-site | Quant | Public can access the site and may contact surface water. |
| | | Animal Tissue | Reeds Gut | Fisher | Adult | Ingestion | On-site | Qual | Fishing may occur in Reeds Gut. |
| | | | | | Child | Ingestion | On-site | Qual | Fishing may occur in Reeds Gut. |
| | Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Industrial Worker | Adult | Dermal Absorption | On-site | Quant | Site workers could contact sediment while performing maintenance activities on the surface water bodies. |
| | | | | | | Ingestion | On-site | Quant | Site workers could contact sediment while performing maintenance activities on the surface water bodies. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | Quant | Public can access the site and may contact sediment. |
| | | | | | | Ingestion | On-site | Quant | Public can access the site and may contact sediment. |
| Future | Groundwater | Groundwater | Tap Water | Resident | Adult | Dermal Absorption | On-site | None | Adults are expected to shower with inhalation and ingestion as the main contributors to risk. |
| | | | | | | Ingestion | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | | Ingestion | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 1

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Future | Groundwater | Groundwater | Tap Water | Resident | Child/Adult | Dermal Absorption | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | | Ingestion | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | Excavation Pit | Construction Worker | Adult | Dermal Absorption | On-site | Quant | Construction worker may contact shallow groundwater during excavation activities. |
| | | | | | | Ingestion | On-site | None | Construction worker not expected to incidentally ingest significant amount of groundwater during construction activities. |
| | | Air | Shower | Resident | Adult | Inhalation | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | Child | Inhalation | On-site | None | Children are assumed not to shower. |
| | | | | | Child/Adult | Inhalation | On-site | None | Children are assumed to take baths, not showers, resulting in minimal inhalation exposure. |
| | | | Water Vapors at Excavation Pit | Construction Worker | Adult | Inhalation | On-site | Quant | Construction worker may inhale vapors from groundwater during excavation activities. |
| | Surface Soil | Surface Soil | Site 1 Surface Soil | Resident | Adult | Dermal Absorption | On-site | Quant | Future residents may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact surface soil. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Future residents may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact surface soil. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Future residents may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact surface soil. |
| | | Air | Emissions from Site 1 Surface Soil | Resident | Adult | Inhalation | Off-site | Quant | Residents may inhale vapors and dust from sites. |
| | | | | | Child | Inhalation | Off-site | Quant | Residents may inhale vapors and dust from sites. |
| | | | | | Child/Adult | Inhalation | Off-site | Quant | Residents may inhale vapors and dust from sites. |
| | Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Industrial Worker | Adult | Dermal Absorption | On-site | None | Site workers would not contact subsurface site soil during activities at the site. |
| | | | | | | Ingestion | On-site | None | Site workers would not contact subsurface site soil during activities at the site. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | None | Public would not be expected to contact subsurface soil. |
| | | | | | | Ingestion | On-site | None | Public would not be expected to contact subsurface soil. |
| | | | | Resident | Adult | Dermal Absorption | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 1

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Future | Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Resident | Child | Dermal Absorption | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | Construction Worker | Adult | Dermal Absorption | On-site | Quant | Exposure to subsurface soil during construction activities. |
| | | | | | | Ingestion | On-site | Quant | Exposure to subsurface soil during construction activities. |
| | | Air | Emissions from Site 1 Exposed Subsurface Soil | Industrial Worker | Adult | Inhalation | On-site | None | Site workers would not inhale vapors from subsurface site soil during activities at the site. |
| | | | | Trespasser/Visitor | Adolescents | Inhalation | On-site | None | Public would not be expected to inhale vapors from subsurface soil. |
| | | | | Resident | Adult | Inhalation | Off-site | Quant | Future residents may inhal vapor and particulate emissions from subsurface soil that has been moved to the surface when the site was developed. |
| | | | | | Child | Inhalation | Off-site | Quant | Future residents may inhal vapor and particulate emissions from subsurface soil that has been moved to the surface when the site was developed. |
| | | | | | Child/Adult | Inhalation | Off-site | Quant | Future residents may inhal vapor and particulate emissions from subsurface soil that has been moved to the surface when the site was developed. |
| | | | | Construction Worker | Adult | Inhalation | On-site | Quant | Exposure to emissions from subsurface soil during construction activities. |
| | Surface Water | Surface Water | Reeds Gut and Unnamed Tributary | Construction Worker | Adult | Dermal Absorption | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | | | Ingestion | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | Resident | Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 1

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Future | Sediment | Sediment | Reeds Gut and Unnamed Tributary | Construction Worker | Adult | Dermal Absorption | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | | | Ingestion | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | Resident | Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |

Table 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1,200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.41 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 5,600 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.73 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 51 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 12 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 65 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.45 C | 0.00015 | NCSSL | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.0069 C | 0.00000197 | NCSSL | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.28 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.34 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.6 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3.4 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.014 | J | 0.014 | J | MG/KG | OU5-S1-SS04-P-01 | 1/8 | 0.005 - 0.005 | 0.014 | NA | 730 N | 0.692 | NCSSL | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 79 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.056 | | 0.22 | J | MG/KG | OU5-S1-SS04-P-01 | 2/8 | 0.005 - 0.005 | 0.22 | NA | 160 N | 2.81 | NCSSL | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.6 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.82 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 62 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.39 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 36 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.25 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 15 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.36 N | 0.001 | NCSSL | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.2 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 57 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.1 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 9.4 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 8.9 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2,200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 62 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 260 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.011 | 0.011 | NA | 9.1 C | 0.022 | NCSSL | NO | DLBSL |
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1,700 S | 2.24 | NCSSL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.5 C | 0.0074 | NCSSL | NO | DLBSL |

Table 2.1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.053 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.004 | J | 0.009 | J | MG/KG | OU5-S1-SS04-P-01 | 6/8 | 0.005 - 0.009 | 0.009 | NA | 39 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.079 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 27 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 4.3 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 6.9 C | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 610 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.61 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 120 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | NA | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.1 C | | | NO | DLBSL |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 49 N | | | NO | DLBSL |

Table 2.1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 370 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | 11.4 | NCSSL | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | NA | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,200 N | 995 | NCSSL | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.2 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 610 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | 0.358 | NCSSL | NO | DLBSL |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | NA | **0.062 C** | **0.091** | **NCSSL** | **YES** | **DLASL** |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 6720 | NCSSL | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,200 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 62 C | 39.8 | NCSSL | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 610 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 240 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | NA | **0.062 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4,900 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 276 | NCSSL | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 270 N | 44.3 | NCSSL | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | NA | **0.3 C** | **0.032** | **NCSSL** | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 37 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 35 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | 3.26 | NCSSL | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 510 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.0 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 3.0 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 59.6 | NCSSL | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,700 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 286 | NCSSL | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9.1 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | NA | **0.21 C** | | | **YES** | **DLASL** |

Table 2.1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 35 C | 6.67 | NCSSL | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | NA | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **0.98** | | **4.9** | | **MG/KG** | **OU5-S1-SS07-01** | **8/8** | **0.83 - 1.2** | **4.9** | **3.9** | **0.390 C** | **26.2** | **NCSSL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 8.8 | J | 24 | | MG/KG | OU5-S1-SS03-01<br>OU5-S1-SS01-01 | 8/8 | 17 - 24 | 24 | 23 | 540 N | 848 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | 0.06 | J | 0.07 | J | MG/KG | OU5-S1-SS08-01 | 3/8 | 0.42 - 0.61 | 0.07 | 1.12 | 3.7 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.3 | | 17.4 | | MG/KG | OU5-S1-SS03-01 | 8/8 | 0.83 - 1.2 | 17.4 | 17 | 210.0 N | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 5.7 | | 34.6 | | MG/KG | OU5-S1-SS08-01 | 8/8 | 0.25 - 0.36 | 34.6 | 10.5 | 400 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.05 | | MG/KG | OU5-S1-SS04-01 | 7/8 | 0.028 - 0.037 | 0.05 | 0.13 | 0.61 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | 0.4 | J | 0.62 | | MG/KG | OU5-S1-SS02-01 | 4/8 | 0.42 - 0.61 | 0.62 | 0.56 | 39.0 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.11 - 0.19 | 0.19 | 0.82 | 39.0 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil
Aceptophenone PRG from 2000 Region IX PRG table.
Screening value for 2-hexanone based on provisional RfD.
2-Chlorophenol used as surrogate for 2-nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-dichloropropene
Naphthalene used as surrogate for 2-methylnaphthlene
Naphthalene used as surrogate for acenaphthylene
Pyrene used as surrogate for benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/
To Be Considered
NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.2

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 218 S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.47 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2,109 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.78 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 54 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.29 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 385 S | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.23 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.08 N | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 131 S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.3 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.36 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2.1 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 4.0 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.014 | J | 0.014 | J | MG/KG | OU5-S1-SS04-P-01 | 1/8 | 0.005 - 0.005 | 0.014 | NA | 868 N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 90 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.056 | | 0.22 | J | MG/KG | OU5-S1-SS04-P-01 | 2/8 | 0.005 - 0.005 | 0.22 | NA | 196 S | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.6 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.9 S | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2,298,278 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.4 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 37 S | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.23 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 17 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3.1 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.3 C | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.3 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 62 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 973 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.3 N | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 9.44 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 9.4 N | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3,078 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 90 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 269 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.011 | 0.011 | NA | 10 C | | | NO | DLBSL |

Table 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 609 N | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.7 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 68 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.05 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.004 | J | 0.009 | J | MG/KG | OU5-S1-SS04-P-01 | 6/8 | 0.005 - 0.009 | 0.009 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.11 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 28 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 4.5 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.88 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 7.3 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.88 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,315 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.2 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 20,586,000 N | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 20,586 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 617,580 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4,117,200 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 411,720 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 411,720 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 205,860 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 10,293,000 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 19.663 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 10,293,000 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 823,440 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,000,000 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,029,300 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/6 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 7.6 N | | | NO | DLBSL |

Table 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,709 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 32,774 N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 40,220 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1E+07 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 50-32-8 | Benzo(a)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212 C | | | NO | DLBSL |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 121,211 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.1E+07 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.0E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 442,418 N | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212,105 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 S | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 8,234,400 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 407 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.6E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 8,234,400 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,253 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 411,720 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5,496 N | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 11,734 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 205,860 N | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9,314,072 S | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.9 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 73,736 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.2E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.2 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.3 C** | | | **YES** | **DLASL** |

Table 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 632,026 C | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,264 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,805,789 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 0.98 | | 4.9 | | MG/KG | OU5-S1-SS07-01 | 8/8 | 0.83 - 1.2 | 4.9 | 3.9 | 588 C | | | NO | BSL |
| 7440-39-3 | Barium | 8.8 | J | 24 | | MG/KG | OU5-S1-SS03-01<br>OU5-S1-SS01-01 | 8/8 | 17 - 24 | 24 | 23.0 | 294,086 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.06 | J | 0.07 | J | MG/KG | OU5-S1-SS08-01 | 3/8 | 0.42 - 0.61 | 0.07 | 1.12 | 1,405 N | | | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.3 | | 17.4 | | MG/KG | OU5-S1-SS03-01 | 8/8 | 0.83 - 1.2 | 17.4 | 17.0 | 30 N | | | NO | BSL |
| 7439-92-1 | Lead | 5.7 | | 34.6 | | MG/KG | OU5-S1-SS08-01 | 8/8 | 0.25 - 0.36 | 34.6 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.02 | J | 0.05 | | MG/KG | OU5-S1-SS04-01 | 7/8 | 0.028 - 0.037 | 0.05 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | 0.4 | J | 0.62 | | MG/KG | OU5-S1-SS02-01 | 4/8 | 0.42 - 0.61 | 0.62 | 0.56 | NA | | | NO | NTX |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.83 - 1.2 | 1.2 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.
[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil Inhalation
Screening value for 2-hexanone based on RfD.
Aceptophenone PRG from 2000 Region IX PRG table.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate fo r2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason:
Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason:
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
ND = Not Detected

Table 2.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 320 N | | | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **10.8 W** | **0.17** | **AWQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.59 A** | | | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 81 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 330 A | | | NO | DLBSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | NA | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 35 A | | | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.048 C** | | | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.00076 C** | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 420 A | | | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.38 A** | | | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.5 A** | | | **YES** | **DLASL** |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 320 A | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 63 A | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/7 | 5 - 5 | 5 | NA | 190 N | | | NO | DLBSL |
| **591-78-6** | **2-Hexanone** | **ND** | | **ND** | | **UG/L** | | **0/7** | **4 - 4** | **4** | **NA** | **1 N** | | | **YES** | **DLASL** |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/7 | 3 - 3 | 3 | NA | 16 N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | UG/L | | 0/7 | 5 - 5 | 5 | NA | 61 N | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 71.4 W | 2.2 | AWQS | NO | DLBSL |
| 74-97-5 | Bromochloromethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | NA | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.55 A** | | | **YES** | **DLASL** |
| 75-25-2 | Bromoform | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 4.3 A | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 47 A | | | NO | DLBSL |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **4.42 W** | **0.23** | **AWQS** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 130 A | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 4.6 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 5.7 A | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 1.5 C | | | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.4 A** | | | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 530 A | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 4.6 A | | | NO | DLBSL |

Table 2.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 160 N | | | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.69 A** | | | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 1300 A | | | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **525 W** | **0.025** | **AWQS** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/7 | 5 - 5 | 5 | NA | 21 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 6.1 N | | | NO | DLBSL |
| 6923-20-2 | **cis-1,3-Dichloropropene** | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 0.34 A | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 140 A | | | NO | DLBSL |
| 10061-02-6 | **trans-1,3-Dichloropropene** | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 0.34 A | | | **YES** | **DLASL** |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1400 A | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | UG/L | | 0/7 | 20 - 26 | 26 | NA | 1800 A | | | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **1.4 A** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 77 A | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 380 A | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | UG/L | | 0/7 | 20 - 26 | 26 | NA | 69 A | | | NO | DLBSL |
| **121-14-2** | **2,4-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.11 A** | | | **YES** | **DLASL** |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **3.6 N** | | | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1000 A | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 81 A | | | NO | DLBSL |
| **91-57-6** | **2-Methylnaphthalene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.62 n** | | | **YES** | **DLASL** |
| 95-48-7 | 2-Methylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 180 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 81 A | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.021 A** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **13 A** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 3000 A | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 15 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| 106-44-5 | 4-Methylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 18 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-02-7 | 4-Nitrophenol | ND | | ND | | UG/L | | 0/7 | 20 - 26 | 26 | NA | 81 A | | | NO | DLBSL |
| 83-32-9 | Acenaphthene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 670 A | | | NO | DLBSL |
| **208-96-8** | **Acenaphthylene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 8300 A | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 830 A | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1500 A | | | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 2000 A | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 150 N | | | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **2.4 N** | | | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 17000 A | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 270000 A | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 130 A | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1100 A | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.00028 A** | | | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **49.7 W** | **0.44** | **AWQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 40 A | | | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **1.4 A** | | | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 35 A | | | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 98-95-3 | Nitrobenzene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 17 A | | | NO | DLBSL |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.27 A** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 830 A | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 21000 A | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 830 A | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.03 A** | | | **YES** | **DLASL** |

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **1.2 A** | | | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.005 A** | | | **YES** | **DLASL** |
| **86-30-6** | **n-Nitrosodiphenylamine** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **3.3 A** | | | **YES** | **DLASL** |
| **7440-38-2** | **Arsenic** | **2.5** | **J** | **2.5** | **J** | **UG/L** | **OU5-S1-SW02** | **1/7** | **10 - 50** | **2.5** | **NA** | **10 W** | **0.018** | **AWQS** | **YES** | **ASL** |
| 7440-39-3 | Barium | 12.2 | J | 42.9 | J | UG/L | OU5-S1-SW04 | 7/7 | 200 - 1000 | 42.9 | NA | 1,000 A | | | NO | BSL |
| 7440-47-3 | Cadmium | ND | | ND | | UG/L | | 0/7 | 0.32 - 1.6 | 1.6 | NA | 2 N | | | NO | DLBSL |
| 7440-47-3 | Chromium | 0.96 | J | 1.3 | J | UG/L | OU5-S1-SW03 | 5/7 | 10 - 50 | 1.3 | NA | 11 N | | | NO | BSL |
| 7439-92-1 | Lead | 2.8 | J | 3.4 | J | UG/L | OU5-S1-SW02 | 3/7 | 3 - 15 | 3.4 | NA | 15 M | | | NO | BSL |
| 7439-97-6 | Mercury | ND | | ND | | UG/L | | 0/7 | 0.02 - 0.07 | 0.07 | NA | 1.1 N | | | NO | DLBSL |
| 7782-49-2 | Selenium | ND | | ND | | UG/L | | 0/7 | 4.4 - 21.6 | 21.6 | NA | 170 A | | | NO | DLBSL |
| 7440-22-4 | Silver | 2 | J | 2.4 | J | UG/L | OU5-S1-SW05 | 2/7 | 0.65 - 3.25 | 2.4 | NA | 18 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values not available.

[3] Used both North Carolina WQS for Human Health and Federal Ambient Water Quality Criteria, Consumption of Water and Organisms.
If both values available, Federal AWQS value included in ARAR column, but used as a screening value.
If neither value available, used USEPA Region IX Tap Water PRG (non-cancer values divided by 10 to account for exposure to multiple constituents)
Screening value for 2-hexanone based on provisional RfD.
2-Chlorophenol used as surrogate for 2-nitrophenol, 4-nitrophenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene and benzo(g,h,i) perylene
1,2-Dichloropropene used as surrogate for cis-1,3-dichloropropene and trans-1,3-dichloropropene
Naphthalene used as surrogate for 2-methylnaphthalene and acenaphthylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
Detection Limit Below Screening Level (DLBSL)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS or W = North Carolina Water Quality Standard, Human Health
AWQS = Federal Ambient Water Quality Criteria, Consumption of Water and Organisms
PRG = USEPA Region IX Preliminary Remediation Goals
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
W = North Carolina WQS
A = Federal AWQS
C = Carcinogenic PRG
N = Non-Carcinogenic PRG
M = Action level for lead from Federal Drinking Water MCLs

Table 2.4
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1,200 | S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.41 | C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 5,600 | N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.73 | C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 51 | N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 12 | N | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 65 | N | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.45 | C | | | NO | DLBSL |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.007 - .065** | **0.065** | **NA** | **0.0069** | C | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 370 | S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.28 | C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.34 | C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.6 | N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 3.4 | C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.072 | J | 0.072 | J | MG/KG | OU5-S1-SD04-00 | 1/8 | .007 - .065 | 0.072 | NA | 730 | N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 11 | N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 79 | N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 160 | N | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.6 | C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.82 | C | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 62 | C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.39 | N | | | NO | DLBSL |
| 75-15-0 | Carbon disulfide | 0.018 | J | 0.018 | J | MG/KG | OU5-S1-SD08-00 | 1/8 | .007 - .065 | 0.018 | NA | 36 | N | | | NO | BSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.25 | C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 15 | N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 3 | C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.36 | N | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.2 | C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 57 | N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 140 | S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.1 | C | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 9.4 | N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 8.9 | C | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 2,200 | N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 62 | C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 260 | N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 9.1 | C | | | NO | DLBSL |

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1,700 S | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.5 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 520 N | | | NO | DLBSL |
| **79-01-6** | **Trichloroethene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.007 - .065** | **0.065** | **NA** | **0.053 C** | | | **YES** | **DLASL** |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.004 | | 0.076 | J | MG/KG | OU5-S1-SD05-00 | 7/8 | .007 - .065 | 0.076 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.079 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 27 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 4.3 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 6.9 C | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 350 S | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 610 N | | | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.61 N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 120 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.3 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.3 N | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **1.1 C** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **0.17 N** | | | **YES** | **DLASL** |

Table 2.4
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 49 N | | | NO | DLBSL |
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 370 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 5.6 N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 2,200 N | | | NO | DLBSL |
| **1912-24-9** | **Atrazine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **2.2 C** | | | **YES** | **DLASL** |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 610 N | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.62 C** | | | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.062 C** | | | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.62 C** | | | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.2 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 1,200 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 62 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 610 N | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | 0.79 | J | 0.79 | J | MG/KG | OU5-S1-SD01-00 | 1/8 | 0.46 - 2.6 | 0.79 | NA | 240 N | | | NO | BSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **0.66** | **J** | **0.66** | **J** | **MG/KG** | **OU5-S1-SD01-00** | **1/8** | **0.46 - 2.6** | **0.66** | **NA** | **0.062 C** | | | **YES** | **ASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 4,900 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 270 N | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.3 C** | | | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 37 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 35 C | | | NO | DLBSL |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.62 C** | | | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 510 C | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 5.6 N | | | NO | DLBSL |
| **98-95-3** | **Nitrobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **2 N** | | | **YES** | **DLASL** |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **3 C** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 3,700 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 3 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.21 C** | | | **YES** | **DLASL** |

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 35 C | | | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.7** | **J** | **9.9** | | **MG/KG** | **OU5-S1-SD06-00** | **8/8** | **1.2 - 6.3** | **9.9** | **NA** | **0.39 C** | | | **YES** | **ASL** |
| 7440-39-3 | Barium | 6.5 | J | 66.7 | | MG/KG | OU5-S1-SD01-00 | 8/8 | 24 - 130 | 66.7 | NA | 540 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.06 | J | 1.3 | J | MG/KG | OU5-S1-SD05-00 | 8/8 | 0.6 - 3.2 | 1.3 | NA | 3.7 N | | | NO | BSL |
| 7440-47-3 | Chromium | 5.9 | J | 27.8 | J | MG/KG | OU5-S1-SD02-00 | 8/8 | 1.2 - 6.3 | 27.8 | NA | 210 C | | | NO | BSL |
| 7439-92-1 | Lead | 6.7 | | 46.4 | | MG/KG | OU5-S1-SD05-00 | 8/8 | 0.36 - 1.9 | 46.4 | NA | 400 N | | | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.39 | | MG/KG | OU5-S1-SD05-00 | 8/8 | 0.041 - 0.23 | 0.39 | NA | 0.61 N | | | NO | BSL |
| 7782-49-2 | Selenium | 0.52 | | 2.74 | | MG/KG | OU5-S1-SD06-00 | 8/8 | 0.6 - 3.2 | 2.74 | NA | 39 N | | | NO | BSL |
| 7440-22-4 | Silver | 0.16 | | 0.82 | | MG/KG | OU5-S1-SD06-00 | 8/8 | 1.2 - 6.3 | 0.82 | NA | 39 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.
[2] Background values not available.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.5

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 2 | | 2 | | UG/L | OU5-S1-TW05 OU5-S1-TW11 | 3/14 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/11 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.046** | **C** | **.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/14 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | UG/L | | 0/14 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/14 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 3 | J | 3 | J | UG/L | OU5-1GW02 | 1/14 | 5 - 5 | 3 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **DLASL** |
| 74-97-5 | Bromochloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-25-2** | **Bromoform** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromomethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.6 | C | 2800 | WQS | NO | DLBSL |
| **67-66-3** | **Chloroform** | **0.9** | **J** | **1** | | **UG/L** | **OU5-S1-TW09** | **2/14** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **.19/80** | **WQS/MCL** | **YES** | **ASL** |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

Table 2.5
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 160 | N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.66** | **C** | **.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 72 | N | 1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.02** | **C** | **.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/11 | 5 - 5 | 5 | NA | 21 | N | 530/10000 | WQS/MCL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 6.1 | N | 70 | WQS/MCL | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 12 | N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| **108-60-1** | **2,2'-Oxybis(1-chloropropane)** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.27** | **C** | **0.26** | **WQS** | **YES** | **DLASL** |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | UG/L | | 0/14 | 20 - 22 | 22 | NA | 360 | N | 370 | WQS | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.36** | **N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 11 | N | 11 | WQS | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 73 | N | 140 | WQS | NO | DLBSL |
| **51-28-5** | **2,4-Dinitrophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **7.3** | **N** | **7.3** | **WQS** | **YES** | **DLASL** |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 7.3 | N | 7.3 | WQS | NO | DLBSL |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **3.6** | **N** | **3.7** | **WQS** | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 49 | N | 49 | WQS | NO | DLBSL |
| **95-57-8** | **2-Chlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **3** | **N** | **0.1** | **WQS** | **YES** | **DLASL** |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 28 | W | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 180 | N | 180 | WQS | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **0.1** | **N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 29 | W | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.15** | **C** | **0.15** | **WQS** | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **11** | **W** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **0.37** | **W** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 | W | | | NO | DLBSL |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | NA | | | | NO | NTX |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 15 | N | 15 | WQS | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | NA | | | | NO | NTX |
| **106-44-5** | **4-Methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **18** | **N** | **3.5** | **WQS** | **YES** | **DLASL** |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **11** | **N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | UG/L | | 0/14 | 20 - 22 | 22 | NA | 29 | N | 29 | WQS | NO | DLBSL |

Table 2.5

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 37 N | 80 | WQS | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 120-12-7 | Anthracene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 180 N | 2100 | WQS | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0092 C** | **.00479/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.92 C** | **0.479** | **WQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 730 N | 100 | WQS | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **9.2 C** | **4.79** | **WQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 360 N | 700 | WQS | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 150 N | 140 | WQS | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0092 C** | **0.00479** | **WQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **2.4 N** | **28** | **WQS** | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 2900 N | 5000 | WQS | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 36000 N | 3700 | WQS | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 150 N | 280 | WQS | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 24 N | 280 | WQS | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.042 N** | **.02/1** | **WQS/MCL** | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.86 C** | **0.44** | **WQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 22 N | 50 | MCL | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **4.8 C** | **4.8** | **WQS** | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 71 C | 36.8 | WQS | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.62 N** | **21** | **WQS** | **YES** | **DLASL** |
| **98-95-3** | **Nitrobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.34 N** | **0.35** | **WQS** | **YES** | **DLASL** |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.56 C** | **.3/1** | **WQS/MCL** | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 2200 N | 300 | WQS | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 18 N | 210 | WQS | NO | DLBSL |
| **111-91-1** | **bis(2-Chloroethoxy)methane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.27 C** | | | **YES** | **DLASL** |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0098 C** | **0.031** | **WQS** | **YES** | **DLASL** |

Table 2.5

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **4.8 C** | **3/6** | **WQS/MCL** | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0096 C** | **0.0096** | **WQS** | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 14 C | 14 | WQS | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **3.7** | **J** | **9.4** | **J** | **UG/L** | **OU5-S1-TW10** | **4/14** | **2.08 - 2.08** | **9.4** | **6.16** | **0.045 W** | **50/10** | **WQS/MCL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 2.1 | J | 85.1 | J | UG/L | OU5-S1-TW03 | 14/14 | 200 - 200 | 85.1 | 80.6 | 260 N | 2000 | WQS/MCL | NO | BSL |
| 7440-47-3 | Cadmium | ND | | ND | | UG/L | | 0/14 | .32 - .32 | 0.32 | ND | 1.8 N | 5 | WQS/MCL | NO | DLBSL |
| 7440-47-3 | Chromium | 1.5 | J | 6.2 | J | UG/L | OU5-S1-TW02 | 4/14 | .85 - .85 | 6.2 | 8.38 | 11 W | 50/100 | WQS/MCL | NO | BSL |
| 7439-92-1 | Lead | 2.4 | J | 3.6 | | UG/L | OU5-S1-TW02 | 5/14 | 2.18 - 2.18 | 3.6 | 1.72 | 15 W | 15 | WQS/MCL | NO | BSL |
| 7439-97-6 | Mercury | 0.75 | | 0.75 | | UG/L | OU5-S1-TW01 | 1/14 | 0.01- 0.05 | 0.75 | ND | 1.1 W | 2 | MCL | NO | BSL |
| 7782-49-2 | Selenium | ND | | ND | | UG/L | | 0/14 | 4.33 - 4.33 | 4.33 | 1.38 | 18 N | 50 | WQS/MCL | NO | DLBSL |
| 7440-22-4 | Silver | ND | | ND | | UG/L | | 0/14 | 1.3 - 1.3 | 1.3 | ND | 18 N | 18 | WQS | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)

Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS or W= North Carolina Groundwater Standards
MCL = Federal Maximum Contaminant Level
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic

Table 2.6

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water in Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 2 | | 2 | | UG/L | OU5-S1-TW05 OU5-S1-TW11 | 3/14 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/11 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/14 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | UG/L | | 0/14 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/14 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 3 | J | 3 | J | UG/L | OU5-1GW02 | 1/14 | 5 - 5 | 3 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **DLASL** |
| 74-97-5 | Bromochloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-25-2** | **Bromoform** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromomethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.6 | C | 2800 | WQS | NO | DLBSL |
| **67-66-3** | **Chloroform** | **0.9** | **J** | **1** | | **UG/L** | **OU5-S1-TW09** | **2/14** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **.19/80** | **WQS/MCL** | **YES** | **ASL** |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

Table 2.6
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water In Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 160 | N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.66** | **C** | **.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 72 | N | 1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.02** | **C** | **.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/11 | 5 - 5 | 5 | NA | 21 | N | 530/10000 | WQS/MCL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 6.1 | N | 70 | WQS/MCL | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 12 | N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| **108-60-1** | **2,2'-Oxybis(1-chloropropane)** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.27** | **C** | **0.26** | **WQS** | **YES** | **DLASL** |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | UG/L | | 0/14 | 20 - 22 | 22 | NA | 360 | N | 370 | WQS | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.36** | **N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 11 | N | 11 | WQS | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 73 | N | 140 | WQS | NO | DLBSL |
| **51-28-5** | **2,4-Dinitrophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **7.3** | **N** | **7.3** | **WQS** | **YES** | **DLASL** |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 7.3 | N | 7.3 | WQS | NO | DLBSL |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **3.6** | **N** | **3.7** | **WQS** | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 49 | N | 49 | WQS | NO | DLBSL |
| **95-57-8** | **2-Chlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **3** | **N** | **0.1** | **WQS** | **YES** | **DLASL** |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 28 | W | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 180 | N | 180 | WQS | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **0.1** | **N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 29 | W | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.15** | **C** | **0.15** | **WQS** | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **11** | **W** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **0.37** | **W** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 | W | | | NO | DLBSL |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | NA | | | | NO | NTX |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 15 | N | 15 | WQS | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | NA | | | | NO | NTX |
| **106-44-5** | **4-Methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **18** | **N** | **3.5** | **WQS** | **YES** | **DLASL** |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/14** | **20 - 22** | **22** | **NA** | **11** | **N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | UG/L | | 0/14 | 20 - 22 | 22 | NA | 29 | N | 29 | WQS | NO | DLBSL |

Table 2.6

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water in Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 37 N | 80 | WQS | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 120-12-7 | Anthracene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 180 N | 2100 | WQS | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0092 C** | **.00479/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.92 C** | **0.479** | **WQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 730 N | 100 | WQS | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **9.2 C** | **4.79** | **WQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 360 N | 700 | WQS | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 150 N | 140 | WQS | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0092 C** | **0.00479** | **WQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **2.4 N** | **28** | **WQS** | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 2900 N | 5000 | WQS | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 36000 N | 3700 | WQS | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 150 N | 280 | WQS | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 24 N | 280 | WQS | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.042 N** | **.02/1** | **WQS/MCL** | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.86 C** | **0.44** | **WQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 22 N | 50 | MCL | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **4.8 C** | **4.8** | **WQS** | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 71 C | 36.8 | WQS | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.62 N** | **21** | **WQS** | **YES** | **DLASL** |
| **98-95-3** | **Nitrobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.34 N** | **0.35** | **WQS** | **YES** | **DLASL** |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.56 C** | **.3/1** | **WQS/MCL** | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 2200 N | 300 | WQS | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 18 N | 210 | WQS | NO | DLBSL |
| **111-91-1** | **bis(2-Chloroethoxy)methane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.27 C** | | | **YES** | **DLASL** |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0098 C** | **0.031** | **WQS** | **YES** | **DLASL** |

Table 2.6

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water in Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **4.8 C** | **3/6** | **WQS/MCL** | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **UG/L** | | **0/14** | **5 - 6** | **6** | **NA** | **0.0096 C** | **0.0096** | **WQS** | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | UG/L | | 0/14 | 5 - 6 | 6 | NA | 14 C | 14 | WQS | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **3.7** | **J** | **9.4** | **J** | **UG/L** | **OU5-S1-TW10** | **4/14** | **2.08 - 2.08** | **9.4** | **6.16** | **0.045 W** | **50/10** | **WQS/MCL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 2.1 | J | 85.1 | J | UG/L | OU5-S1-TW03 | 14/14 | 200 - 200 | 85.1 | 80.6 | 260 N | 2000 | WQS/MCL | NO | BSL |
| 7440-47-3 | Cadmium | ND | | ND | | UG/L | | 0/14 | .32 - .32 | 0.32 | ND | 1.8 N | 5 | WQS/MCL | NO | DLBSL |
| 7440-47-3 | Chromium | 1.5 | J | 6.2 | J | UG/L | OU5-S1-TW02 | 4/14 | .85 - .85 | 6.2 | 8.38 | 11 W | 50/100 | WQS/MCL | NO | BSL |
| 7439-92-1 | Lead | 2.4 | J | 3.6 | | UG/L | OU5-S1-TW02 | 5/14 | 2.18 - 2.18 | 3.6 | 1.72 | 15 W | 15 | WQS/MCL | NO | BSL |
| 7439-97-6 | Mercury | 0.75 | | 0.75 | | UG/L | OU5-S1-TW01 | 1/14 | 0.01- 0.05 | 0.75 | ND | 1.1 W | 2 | MCL | NO | BSL |
| 7782-49-2 | Selenium | ND | | ND | | UG/L | | 0/14 | 4.33 - 4.33 | 4.33 | 1.38 | 18 N | 50 | WQS/MCL | NO | DLBSL |
| 7440-22-4 | Silver | ND | | ND | | UG/L | | 0/14 | 1.3 - 1.3 | 1.3 | ND | 18 N | 18 | WQS | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)

Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

WQS = North Carolina Groundwater Standards

MCL = Federal Maximum Contaminant Level

ND = Not detected

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Noncarcinogenic

Table 2.7

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 2 | | 2 | | UG/L | OU5-S1-TW05 OU5-S1-TW11 | 3/14 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/14 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | UG/L | | 0/14 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/14 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 3 | J | 3 | J | UG/L | OU5-1GW02 | 1/14 | 5 - 5 | 3 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **DLASL** |
| 74-97-5 | Bromochloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-25-2** | **Bromoform** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromomethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.6 | C | 2800 | WQS | NO | DLBSL |
| **67-66-3** | **Chloroform** | **0.9** | **J** | **1** | | **UG/L** | **OU5-S1-TW09 OU5-S1-TW09-P** | **2/14** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **.19/80** | **WQS/MCL** | **YES** | **ASL** |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

Table 2.7

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 160 | N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.66** | **C** | **.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 72 | N | 1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.02** | **C** | **.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/14 | 5 - 5 | 5 | NA | 21 | N | 530/10000 | WQS/MCL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 6.1 | N | 70 | WQS/MCL | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 12 | N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |

[1] Minimum/maximum detected groundwater concentration since inhalation exposure equal to ingestion exposure for VOCs.

[2] N/A - No background data for VOCs.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)

Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

WQS or W= North Carolina Groundwater Standards

MCL = Federal Maximum Contaminant Level

ND = Not detected

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Noncarcinogenic

Table 2.8

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 2 | | 2 | | UG/L | OU5-S1-TW05 OU5-S1-TW11 | 3/14 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/14 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | UG/L | | 0/14 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/14 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 3 | J | 3 | J | UG/L | OU5-1GW02 | 1/14 | 5 - 5 | 3 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **DLASL** |
| 74-97-5 | Bromochloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-25-2** | **Bromoform** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromomethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.6 | C | 2800 | WQS | NO | DLBSL |
| **67-66-3** | **Chloroform** | **0.9** | J | **1** | | **UG/L** | **OU5-S1-TW09 OU5-S1-TW09-P** | **2/14** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **.19/80** | **WQS/MCL** | **YES** | **ASL** |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

Table 2.8
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 160 | N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.66** | **C** | **.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 72 | N | 1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.02** | **C** | **.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/14 | 5 - 5 | 5 | NA | 21 | N | 530/10000 | WQS/MCL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 6.1 | N | 70 | WQS/MCL | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/14 | 1 - 1 | 1 | NA | 12 | N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/14** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |

[1] Minimum/maximum detected groundwater concentration since inhalation exposure equal to ingestion exposure for VOCs.
[2] N/A - No background data for VOCs.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)
Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.
[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS or W= North Carolina Groundwater Standards
MCL = Federal Maximum Contaminant Level
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic

Table 2.9

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1,200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.41 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 5,600 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.73 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 51 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 12 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 65 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.45 C | 0.00015 | NCSSL | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.0069 C | 0.00000197 | NCSSL | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.28 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.34 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.6 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3.4 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.014 | J | 0.014 | J | MG/KG | OU5-S1-SS04-P-01 | 1/8 | 0.005 - 0.005 | 0.014 | NA | 730 N | 0.692 | NCSSL | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 79 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.056 | | 0.22 | J | MG/KG | OU5-S1-SS04-P-01 | 2/8 | 0.005 - 0.005 | 0.22 | NA | 160 N | 2.81 | NCSSL | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.6 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.82 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 62 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.39 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 36 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.25 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 15 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.36 N | 0.001 | NCSSL | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.2 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 57 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.1 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 9.4 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 8.9 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2,200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 62 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 260 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.011 | 0.011 | NA | 9.1 C | 0.022 | NCSSL | NO | DLBSL |

Table 2.9

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1,700 S | 2.24 | NCSSL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.5 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.053 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.004 | J | 0.009 | J | MG/KG | OU5-S1-SS04-P-01 | 6/8 | 0.005 - 0.009 | 0.009 | NA | 39 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.079 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 27 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 4.3 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 6.9 C | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 610 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.61 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 120 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.1 C | | | NO | DLBSL |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 49 N | | | NO | DLBSL |

Table 2.9

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 370 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | 11.4 | NCSSL | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,200 N | 995 | NCSSL | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.2 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 610 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | 0.358 | NCSSL | NO | DLBSL |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.062 C** | **0.091** | **NCSSL** | **YES** | **DLASL** |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 6720 | NCSSL | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,200 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 62 C | 39.8 | NCSSL | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 610 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 240 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.062 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4,900 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 276 | NCSSL | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 270 N | 44.3 | NCSSL | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.3 C** | **0.032** | **NCSSL** | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 37 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 35 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | 3.26 | NCSSL | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 510 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.0 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 3.0 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 59.6 | NCSSL | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,700 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 286 | NCSSL | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9.1 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.21 C** | | | **YES** | **DLASL** |

Table 2.9

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 35 C | 6.67 | NCSSL | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **0.98** | | **4.9** | | **MG/KG** | **OU5-S1-SS07-01** | **8/8** | **0.83 - 1.2** | **4.9** | **3.9** | **0.390 C** | **26.2** | **NCSSL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 8.8 | J | 24 | | MG/KG | OU5-S1-SS03-01<br>OU5-S1-SS01-01 | 8/8 | 17 - 24 | 24 | 23 | 540 N | 648 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | 0.06 | J | 0.07 | J | MG/KG | OU5-S1-SS08-01 | 3/8 | 0.42 - 0.61 | 0.07 | 1.12 | 3.7 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.3 | | 17.4 | | MG/KG | OU5-S1-SS03-01 | 8/8 | 0.83 - 1.2 | 17.4 | 17 | 210.0 N | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 5.7 | | 34.6 | | MG/KG | OU5-S1-SS08-01 | 8/8 | 0.25 - 0.36 | 34.6 | 10.5 | 400 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.05 | | MG/KG | OU5-S1-SS04-01 | 7/8 | 0.028 - 0.037 | 0.05 | 0.13 | 0.61 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | 0.4 | J | 0.62 | | MG/KG | OU5-S1-SS02-01 | 4/8 | 0.42 - 0.61 | 0.62 | 0.56 | 39.0 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 6/8 | 0.11 - 0.19 | 0.19 | 0.82 | 39.0 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil

Aceptophenone PRG from 2000 Region IX PRG table.

Screening value for 2-hexanone based on provisional RfD.

2-Chlorophenol used as surrogate for 2-nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

Bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-dichloropropene

Naphthalene used as surrogate for 2-methylnaphthlene

Naphthalene used as surrogate for acenaphthylene

Pyrene used as surrogate for benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Noncarcinogenic

S = Soil Saturation Concentration

M = Ceiling Limit

Table 2.10

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 218 S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.47 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2,109 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.78 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 54 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.29 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 385 S | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.23 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.08 N | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 131 S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.3 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.36 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2.1 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 4.0 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.014 | J | 0.014 | J | MG/KG | OU5-S1-SS04-P-01 | 1/8 | 0.005 - 0.005 | 0.014 | NA | 868 N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 90 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.056 | | 0.22 | J | MG/KG | OU5-S1-SS04-P-01 | 2/8 | 0.005 - 0.005 | 0.22 | NA | 196 S | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.6 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.9 S | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 2,298,278 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.4 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 37 S | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.23 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 17 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3.1 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.3 C | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.3 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 62 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 973 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.3 N | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 9.44 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 9.4 N | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 3,078 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 90 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 269 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.011 | 0.011 | NA | 10 C | | | NO | DLBSL |

Table 2.10
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 609 N | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 1.7 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 68 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.05 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.004 | J | 0.009 | J | MG/KG | OU5-S1-SS04-P-01 | 6/8 | 0.005 - 0.009 | 0.009 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.11 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 28 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 4.5 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.88 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 7.3 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.005 | 0.005 | NA | 0.88 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,315 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.2 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 20,586,000 N | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 20,586 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 617,580 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4,117,200 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 411,720 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 411,720 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 205,860 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 10,293,000 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 19,663 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 10,293,000 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 823,440 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,000,000 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,029,300 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 7.6 N | | | NO | DLBSL |

Table 2.10
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,709 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 32,774 N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 40,220 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1E+07 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 50-32-8 | Benzo(a)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212 C | | | NO | DLBSL |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 121,211 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.1E+07 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.0E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 442,418 N | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212,105 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 S | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 8,234,400 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 407 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.6E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 8,234,400 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,253 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 411,720 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.496 N | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 11,734 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 205,860 N | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9,314,072 S | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.9 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 73,736 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.2E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.2 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.3 C** | | | **YES** | **DLASL** |

Table 2.10

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 632,026 C | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | **0.36 - 0.46** | 0.46 | NA | 1,264 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,805,789 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 0.98 | | 4.9 | | MG/KG | OU5-S1-SS07-01 | 8/8 | **0.83 - 1.2** | 4.9 | 3.9 | 588 C | | | NO | BSL |
| 7440-39-3 | Barium | 8.8 | J | 24 | | MG/KG | OU5-S1-SS03-01<br>OU5-S1-SS01-01 | 8/8 | 17 - 24 | 24 | 23.0 | 294,086 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.06 | J | 0.07 | J | MG/KG | OU5-S1-SS08-01 | 3/8 | 0.42 - 0.61 | 0.07 | 1.12 | 1,405 N | | | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.3 | | 17.4 | | MG/KG | OU5-S1-SS03-01 | 8/8 | 0.83 - 1.2 | 17.4 | 17.0 | 30 N | | | NO | BSL |
| 7439-92-1 | Lead | 5.7 | | 34.6 | | MG/KG | OU5-S1-SS08-01 | 8/8 | 0.25 - 0.36 | 34.6 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.02 | J | 0.05 | | MG/KG | OU5-S1-SS04-01 | 7/8 | 0.028 - 0.037 | 0.05 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | 0.4 | J | 0.62 | | MG/KG | OU5-S1-SS02-01 | 4/8 | 0.42 - 0.61 | 0.62 | 0.56 | NA | | | NO | NTX |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 6/8 | 0.83 - 1.2 | 1.2 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil Inhalation

Screening value for 2-hexanone based on RfD.

Aceptophenone PRG from 2000 Region IX PRG table.

2-Chlorophenol used as surrogate for 2-nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

Bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-dichloropropene

Naphthalene used as surrogate for 2-methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

Pyrene used as surrogate for benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)

Definitions: N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
ND = Not Detected

Table 2.11
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1,200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.41 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-1 | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 5,600 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.73 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 51 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 12 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 65 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.45 C | 0.00015 | NCSSL | NO | DLBSL |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.005 - 0.008** | **0.008** | **NA** | **0.0069 C** | **0.00000197** | **NCSSL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.28 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.34 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.6 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3.4 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 730 N | 0.692 | NCSSL | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 79 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.005 | J | 0.007 | J | MG/KG | OU5-S1-SB02-P-04 | 4/8 | 0.005 - 0.008 | 0.007 | NA | 160 N | 2.81 | NCSSL | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.6 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.82 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 62 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.39 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 36 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.25 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 15 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | 0.004 | J | 0.004 | J | MG/KG | OU5-S1-SB07-04 | 1/8 | 0.005 - 0.008 | 0.004 | NA | 0.36 N | 0.001 | NCSSL | NO | BSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.2 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 57 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.1 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 9.4 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 8.9 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2,200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 62 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 260 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 9.1 C | 0.022 | NCSSL | NO | DLBSL |

Table 2.11
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1,700 S | 2.24 | NCSSL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.5 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.053 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.007 | | 0.048 | | MG/KG | OU5-S1-SB07-04 | 6/8 | 0.005 - 0.008 | 0.048 | NA | 39 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.079 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 27 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 4.3 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 6.9 C | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 610 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.61 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 120 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.1 C | | | NO | DLBSL |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.2** | **1.2** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 49 N | | | NO | DLBSL |

Table 2.11

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 370 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | 11.4 | NCSSL | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,200 N | 995 | NCSSL | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.2 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 610 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | 0.358 | NCSSL | NO | DLBSL |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.062 C** | **0.091** | **NCSSL** | **YES** | **DLASL** |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 6720 | NCSSL | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,200 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 62 C | 39.8 | NCSSL | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 610 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 240 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.062 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4,900 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 276 | NCSSL | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 270 N | 44.3 | NCSSL | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.3 C** | **0.032** | **NCSSL** | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 37 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 35 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.62 C | 3.26 | NCSSL | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 510 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.6 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.0 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 3.0 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 59.6 | NCSSL | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,700 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 230 N | 286 | NCSSL | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9.1 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.21 C** | | | **YES** | **DLASL** |

Table 2.11

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 35 C | 6.67 | NCSSL | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.3** | | **6.6** | | **MG/KG** | **OU5-S1-SB04-04** | **8/8** | **0.8 - 1.2** | **6.6** | **0.39** | **0.390 C** | **26.2** | **NCSSL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 12.4 | J | 34.3 | | MG/KG | OU5-S1-SB07-04 | 8/8 | 16 - 24 | 34.3 | 540 | 540 N | 848 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | ND | | ND | | MG/KG | | 0/8 | 0.03 - 0.04 | 0.04 | 4 | 3.7 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium | 7.4 | K | 22 | K | MG/KG | OU5-S1-SB07-04 | 8/8 | 0.8 - 1.2 | 22 | 210 | 210.0 N | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 4.2 | | 11.3 | | MG/KG | OU5-S1-SB03-04 | 8/8 | 0.24 - 0.37 | 11.3 | 40 | 400 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.01 | J | 0.04 | J | MG/KG | OU5-S1-SB03-04 | 6/8 | 0.035 - 0.045 | 0.04 | 0.61 | 0.61 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | 0.41 | J | 0.41 | J | MG/KG | OU5-S1-SB01-04 | 1/8 | 0.4 - 0.61 | 0.41 | 39 | 39.0 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.1 - 0.18 | 0.18 | 39 | 39.0 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil

Aceptophenone PRG from 2000 Region IX PRG table.

Screening value for 2-hexanone based on provisional RfD.

2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene

Naphthalene used as surrogate for2-Methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.12
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.93 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-1 | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 5600 S | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.6 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 170 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 41 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3000 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2 C | 0.00015 | NCSSL | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.028 C | 0.00000197 | NCSSL | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.6 N | 0.00164 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.74 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 6.3 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 7.9 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2700 N | 0.692 | NCSSL | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 36 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 280 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.005 | J | 0.007 | J | MG/KG | OU5-S1-SB02-P-04 | 4/8 | 0.005 - 0.008 | 0.007 | NA | 600 N | 2.81 | NCSSL | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.3 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.8 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 220 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.3 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 720 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.55 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 53 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 6.5 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | 0.004 | J | 0.004 | J | MG/KG | OU5-S1-SB07-04 | 1/8 | 0.005 - 0.008 | 0.004 | NA | 12 N | 0.001 | NCSSL | NO | BSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2.6 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 200 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2.6 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 31 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 20 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 9200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 160 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 870 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 21 C | 0.022 | NCSSL | NO | DLBSL |

Table 2.12
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1700 S | 2.24 | NCSSL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3.4 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.11 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.007 | | 0.048 | | MG/KG | OU5-S1-SB07-04 | 6/8 | 0.005 - 0.008 | 0.048 | NA | 2000 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.75 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 420 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 15 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 23 N | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.4 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 6,200 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.2 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 180 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,200 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 120 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 120 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 62 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 19 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,100 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 1.8 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.8 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 1.8 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 3,100 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 24 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 250 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 310 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 310 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 1.8 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 700 N | | | NO | DLBSL |

Table 2.12
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,900 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 19.0 N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.16 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 N | 995 | NCSSL | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.8 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6,200 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1 C | 0.358 | NCSSL | NO | DLBSL |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.21 C** | **0.091** | **NCSSL** | **YES** | **DLASL** |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,900 N | 6720 | NCSSL | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 21 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 86 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 210 C | 39.8 | NCSSL | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6,200 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,500 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.21 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 310 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,200 N | 276 | NCSSL | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,600 N | 44.3 | NCSSL | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.1 C | 0.032 | NCSSL | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 22 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 370 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 120 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1 C | 3.26 | NCSSL | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,800 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 19 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 10 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 9 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,900 N | 59.6 | NCSSL | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 100,000 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,900 N | 286 | NCSSL | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | DLBSL |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.55 C | | | NO | DLBSL |

Table 2.12

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 120 C | 6.67 | NCSSL | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.25 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 350 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.3** | | **6.6** | | **MG/KG** | **OU5-S1-SB04-04** | **8/8** | **0.8 - 1.2** | **6.6** | **3.9** | **1.6 C** | **26.2** | **NCSSL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 12.4 | J | 34.3 | | MG/KG | OU5-S1-SB07-04 | 8/8 | 16 - 24 | 34.3 | 23.0 | 6,700 N | 648 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | ND | | ND | | MG/KG | | 0/8 | 0.03 - 0.04 | 0.04 | 1.12 | 45 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium | 7.4 | K | 22 | K | MG/KG | OU5-S1-SB07-04 | 8/8 | 0.8 - 1.2 | 22 | 17.0 | 450 C | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 4.2 | | 11.3 | | MG/KG | OU5-S1-SB03-04 | 8/8 | 0.24 - 0.37 | 11.3 | 10.5 | 75 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.01 | J | 0.04 | J | MG/KG | OU5-S1-SB03-04 | 6/8 | 0.035 - 0.045 | 0.04 | 0.13 | 6.2 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | 0.41 | J | 0.41 | J | MG/KG | OU5-S1-SB01-04 | 1/8 | 0.4 - 0.61 | 0.41 | 0.56 | 510 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.1 - 0.18 | 0.18 | 0.82 | 510 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Industrial Soil

Aceptophenone PRG from 2000 Region IX PRG table.

Screening value for 2-hexanone based on provisional RfD.

2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene

Naphthalene used as surrogate for2-Methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.

ND = Not detected

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Noncarcinogenic

S = Soil Saturation Concentration

M = Ceiling Limit

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 218 S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.47 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-1 | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2,109 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.78 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 54 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.29 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 385 S | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.23 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.08 N | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 131 S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.3 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.36 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2.1 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 4.0 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 868 N | | | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 90 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.005 | J | 0.007 | J | MG/KG | OU5-S1-SB02-P-04 | 4/8 | 0.005 - 0.008 | 0.007 | NA | 196 S | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.6 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.9 S | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2.3E+06 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.4 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 37 S | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.23 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 17 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3.1 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | 0.004 | J | 0.004 | J | MG/KG | OU5-S1-SB07-04 | 1/8 | 0.005 - 0.008 | 0.004 | NA | 0.3 C | | | NO | BSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.3 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 62 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 973 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.3 N | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 9.44 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 9.4 N | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3,078 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 90 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 269 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 10 C | | | NO | DLBSL |

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 609 N | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.7 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 68 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.05 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.007 | | 0.048 | | MG/KG | OU5-S1-SB07-04 | 6/8 | 0.005 - 0.008 | 0.048 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.11 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 28 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 4.5 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.88 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 7.3 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.88 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,315 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.2 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 2.1E+07 N | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 20,586 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 617,580 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.1E+06 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 411,720 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 411,720 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 205,860 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.0E+07 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 19,663 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 1.0E+07 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.6 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 823,440 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.0E+06 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.0E+06 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 5,888 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 7.6 N | | | NO | DLBSL |

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,709 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 32,774 N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 40,220 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1E+07 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 50-32-8 | Benzo(a)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212 C | | | NO | DLBSL |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 121,211 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.1E+07 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.0E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 442,418 N | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.2E+06 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,300 S | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 8.2E+06 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,212 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 407 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.6E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.1E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 8.2E+06 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,253 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 411,720 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5,496 N | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 11,734 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 205,860 N | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 12,121 C | | | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9.3E+06 S | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.8 C | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.9 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 73,736 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.2E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 17,833 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.2 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.3 C** | | | **YES** | **DLASL** |

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 632,026 C | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,264 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.8E+06 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 1.3 | | 6.6 | | MG/KG | OU5-S1-SB04-04 | 8/8 | 0.8 - 1.2 | 6.6 | 3.9 | 588 C | | | NO | BSL |
| 7440-39-3 | Barium | 12.4 | J | 34.3 | | MG/KG | OU5-S1-SB07-04 | 8/8 | 16 - 24 | 34.3 | 23.0 | 294,086 N | | | NO | BSL |
| 7440-43-9 | Cadmium | ND | | ND | | MG/KG | | 0/8 | 0.4 - 0.61 | 0.61 | 1.12 | 1,405 N | | | NO | BSL |
| 7440-47-3 | Chromium | 7.4 | K | 22 | K | MG/KG | OU5-S1-SB07-04 | 8/8 | 0.8 - 1.2 | 22 | 17.0 | 30 N | | | NO | BSL |
| 7439-92-1 | Lead | 4.2 | | 11.3 | | MG/KG | OU5-S1-SB03-04 | 8/8 | 0.24 - 0.37 | 11.3 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.01 | J | 0.04 | J | MG/KG | OU5-S1-SB03-04 | 6/8 | 0.035 - 0.045 | 0.04 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | 0.41 | J | 0.41 | J | MG/KG | OU5-S1-SB01-04 | 1/8 | 0.4 - 0.61 | 0.41 | 0.56 | NA | | | NO | NTX |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.8 - 1.2 | 1.2 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.
[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil Inhalation
Screening value for 2-hexanone based on RfD.
Aceptophenone PRG from 2000 Region IX PRG table.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate fo r2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
ND = Not Detected

Table 2.14
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 712 N | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.99 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-1 | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 68,909 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.7 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 177 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 417 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1,257 N | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.7 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.17 C | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 421 N | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.62 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.76 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 6.7 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 8.4 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 28,356 N | | | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 37 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2,939 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.005 | J | 0.007 | J | MG/KG | OU5-S1-SB02-P-04 | 4/8 | 0.005 - 0.008 | 0.007 | NA | 641 N | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.3 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.9 C | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 4,890,735 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.3 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 122 N | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.6 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 54 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 6.5 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | 0.004 | J | 0.004 | J | MG/KG | OU5-S1-SB07-04 | 1/8 | 0.005 - 0.008 | 0.004 | NA | 2.0 C | | | NO | BSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2.7 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 202 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3,180 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 2.8 C | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 30.9 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 20 C | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 10,054 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 37 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 880 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 22 C | | | NO | DLBSL |

Table 2.14

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1,989 N | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 3.6 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 224 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.12 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.007 | | 0.048 | | MG/KG | OU5-S1-SB07-04 | 8/8 | 0.005 - 0.008 | 0.048 | NA | 128 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 0.93 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 90 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 15 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.9 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 24 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.008 | 0.008 | NA | 1.9 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4,297 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 6.7E+08 C | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 268,990 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.0E+06 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.3E+07 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 1.3E+06 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.3E+06 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 672,476 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,275 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 25 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 18.9 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.4E+07 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 1.9E+04 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 25 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 41,843 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 19,233 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 3.4E+07 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 25 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,689,904 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,362,380 C | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.4E+06 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 19,233 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 25 | | | NO | DLBSL |

Table 2.14

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5,582 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 18.9 N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.46** | **0.46** | **NA** | **0.049** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 107,061 N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 85,588 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.7E+07 N | | | NO | DLBSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 25,794 C | | | NO | DLBSL |
| 50-32-8 | Benzo(a)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,579 C | | | NO | DLBSL |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 25,794 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 58,256 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 257,936 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1.3E+08 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3.4E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 941,466 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 482,803 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.7E+07 N | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.7E+07 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,579 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,330 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 5.4E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 6.7E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.7E+07 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 7.4E+03 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 11,695 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 241,402 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 38,331 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 1,344,952 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 25,794 C | | | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2.0E+07 C | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 18.9 N | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 13 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.2 | 1.2 | NA | 156,911 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 58,256 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 4.0E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 58,256 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 9.0 C | | | NO | DLBSL |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 0.7 C | | | NO | DLBSL |

Table 2.14
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 134,495 N | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 2,690 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.46 | 0.46 | NA | 3,842,720 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 1.3 | | 6.6 | | MG/KG | OU5-S1-SB04-04 | 8/8 | 0.8 - 1.2 | 6.6 | 3.9 | 1251 C | | | NO | BSL |
| 7440-39-3 | Barium | 12.4 | J | 34.3 | | MG/KG | OU5-S1-SB07-04 | 8/8 | 16 - 24 | 34.3 | 23.0 | 96,068 N | | | NO | BSL |
| 7440-43-9 | Cadmium | ND | | ND | | MG/KG | | 0/8 | 0.4 - 0.61 | 0.61 | 1.12 | 126 N | | | NO | DLBSL |
| 7440-47-3 | Chromium | 7.4 | K | 22 | K | MG/KG | OU5-S1-SB07-04 | 8/8 | 0.8 - 1.2 | 22 | 17.0 | 64 C | | | NO | BSL |
| 7439-92-1 | Lead | 4.2 | | 11.3 | | MG/KG | OU5-S1-SB03-04 | 8/8 | 0.24 - 0.37 | 11.3 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.01 | J | 0.04 | J | MG/KG | OU5-S1-SB03-04 | 6/8 | 0.035 - 0.045 | 0.04 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | 0.41 | J | 0.41 | J | MG/KG | OU5-S1-SB01-04 | 1/8 | 0.4 - 0.61 | 0.41 | 0.56 | NA | | | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.8 - 1.2 | 1.2 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.
[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Industrial Soil-Air
Aceptophenone PRG from 2000 Region IX PRG table.
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/
To Be Considered
NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.15
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 320 N | | | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **10.8 W** | **0.17** | **AWQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.6 A** | | | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 81 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 330 A | | | NO | DLBSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | NA | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 35 A | | | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.048 C** | | | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.00076 C** | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 420 A | | | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.38 A** | | | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.5 C** | | | **YES** | **DLASL** |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 320 A | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 63 A | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/7 | 5 - 5 | 5 | NA | 190 N | | | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | UG/L | | 0/7 | 4 - 4 | 4 | NA | NA | | | NO | NTX |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/7 | 3 - 3 | 3 | NA | 16 N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | UG/L | | 0/7 | 5 - 5 | 5 | NA | 61 N | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 71.4 W | 1.2 | AWQS | NO | DLBSL |
| 74-97-5 | Bromochloromethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | NA | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.55 A** | | | **YES** | **DLASL** |
| 75-25-2 | Bromoform | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 4.3 A | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 47 A | | | NO | DLBSL |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **4.42 W** | **0.25** | **AWQS** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 680 A | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 4.6 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 5.7 A | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 1.5 A | | | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.4 A** | | | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 3100 A | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 4.6 A | | | NO | DLBSL |

Table 2.15

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 160 N | | | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.69 A** | | | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 5800 A | | | NO | DLBSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 525 W | 2 | AWQS | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/7 | 5 - 5 | 5 | NA | 21 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 6.1 N | | | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.34 A** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/7 | 1 - 1 | 1 | NA | 140 A | | | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **1 - 1** | **1** | **NA** | **0.34 A** | | | **YES** | **DLASL** |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1400 A | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | UG/L | | 0/7 | 20 - 26 | 26 | NA | 1800 A | | | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **1.4 A** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 77 A | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 380 A | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | UG/L | | 0/7 | 20 - 26 | 26 | NA | 69 A | | | NO | DLBSL |
| **121-14-2** | **2,4-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.11 A** | | | **YES** | **DLASL** |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **3.6 N** | | | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1000 A | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 81 A | | | NO | DLBSL |
| **91-57-6** | **2-Methylnaphthalene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 95-48-7 | 2-Methylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 180 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 81 A | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.021 A** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **13.4 A** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 13 A | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 3000 A | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 15 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| 106-44-5 | 4-Methylphenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 18 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/7** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | UG/L | | 0/7 | 20 - 26 | 26 | NA | 81 A | | | NO | DLBSL |

Table 2.15

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 670 A | | | NO | DLBSL |
| **208-96-8** | **Acenaphthylene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 8300 A | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 830 A | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1500 A | | | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 2000 A | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 150 N | | | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **2.4 N** | | | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 17000 A | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 270000 A | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 130 A | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 1100 A | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.00028 A** | | | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **49.7 W** | **0.44** | **AWQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 40 A | | | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **1.4 A** | | | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 35 A | | | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 98-95-3 | Nitrobenzene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 17 A | | | NO | DLBSL |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.27 A** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 830 A | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 21000 A | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | 830 A | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | UG/L | | 0/7 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.031 A** | | | **YES** | **DLASL** |

Table 2.15

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **1.2 A** | | | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **0.005 A** | | | **YES** | **DLASL** |
| **86-30-6** | **n-Nitrosodiphenylamine** | **ND** | | **ND** | | **UG/L** | | **0/7** | **5 - 6** | **6** | **NA** | **3.3 A** | | | **YES** | **DLASL** |
| **7440-38-2** | **Arsenic** | **2.5** | **J** | **2.5** | **J** | **UG/L** | **OU5-S1-SW02** | **1/7** | **10 - 50** | **2.5** | **NA** | **10.000 W** | **0.018** | | **YES** | **ASL** |
| 7440-39-3 | Barium | 12.2 | J | 42.9 | J | UG/L | OU5-S1-SW04 | 7/7 | 200 - 1000 | 42.9 | NA | 1,000 A | | | NO | BSL |
| 7440-47-3 | Cadmium | ND | | ND | | UG/L | | 0/7 | 0.32 - 1.6 | 1.6 | NA | 2 N | | | NO | DLBSL |
| 7440-47-3 | Chromium | 0.96 | J | 1.3 | J | UG/L | OU5-S1-SW03 | 5/7 | 10 - 50 | 1.3 | NA | 11 N | | | NO | BSL |
| 7439-92-1 | Lead | 2.8 | J | 3.4 | J | UG/L | OU5-S1-SW02 | 3/7 | 3 - 15 | 3.4 | NA | 15 M | | | NO | BSL |
| **7439-97-6** | **Mercury** | **ND** | | **ND** | | **UG/L** | | **0/7** | **0.02 - 0.07** | **0.07** | **NA** | **1.1 A** | | | NO | DLBSL |
| 7782-49-2 | Selenium | ND | | ND | | UG/L | | 0/7 | 4.4 - 21.6 | 21.6 | NA | 170 A | | | NO | DLBSL |
| 7440-22-4 | Silver | 2 | J | 2.4 | J | UG/L | OU5-S1-SW05 | 2/7 | 0.65 - 3.25 | 2.4 | NA | 18 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values not available.

[3] Used both North Carolina WQS for Human Health and Federal Ambient Water Quality Criteria, Consumption of Water and Organisms.
If both values available, Federal AWQS value included in ARAR column, but used as a screening value.
If neither value available, used USEPA Region IX Tap Water PRG (non-cancer values divided by 10 to account for exposure to multiple constituents)
Screening value for 2-hexanone based on provisional RfD.
2-Chlorophenol used as surrogate for 2-nitrophenol, 4-nitrophenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene and benzo(g,h,i) perylene
1,3-Dichloropropene used as surrogate for cis-1,2-dichloropropene and trans-1,2-dichloropropene
Naphthalene used as surrogate for 2-methylnaphthalene and acenaphthylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
Detection Limit Below Screening Level (DLBSL)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Water Quality Standard, Human Health
AWQS = Federal Ambient Water Quality Criteria, Consumption of Water and Organisms
PRG = USEPA Region IX Preliminary Remedition Goals
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
W = North Carolina WQS
A = Federal AWQS
C = Carcinogenic PRG
N = Non-Carcinogenic PRG
M = Action level for lead from Federal Drinking Water MCLs

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1,200 | S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.41 | C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 5,600 | N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.73 | C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 51 | N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 12 | N | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 65 | N | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.45 | C | | | NO | DLBSL |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.007 - .065** | **0.065** | **NA** | **0.0069** | C | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 370 | S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.28 | C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.34 | C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.6 | N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 3.4 | C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.072 | J | 0.072 | J | MG/KG | OU5-S1-SD04-00 | 1/8 | .007 - .065 | 0.072 | NA | 730 | N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 11 | N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 79 | N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 160 | N | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.6 | C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.82 | C | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 62 | C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.39 | N | | | NO | DLBSL |
| 75-15-0 | Carbon disulfide | 0.018 | J | 0.018 | J | MG/KG | OU5-S1-SD08-00 | 1/8 | .007 - .065 | 0.018 | NA | 36 | N | | | NO | BSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.25 | C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 15 | N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 3 | C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.36 | N | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.2 | C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 57 | N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 140 | S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.1 | C | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 9.4 | N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 8.9 | C | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 2,200 | N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 62 | C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 260 | N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 9.1 | C | | | NO | DLBSL |

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1,700 | S | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 1.5 | C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 520 | N | | | NO | DLBSL |
| **79-01-6** | **Trichloroethene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.007 - .065** | **0.065** | **NA** | **0.053** | **C** | | | **YES** | **DLASL** |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.004 | | 0.076 | J | MG/KG | OU5-S1-SD05-00 | 7/8 | .007 - .065 | 0.076 | NA | 39 | N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.079 | C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 27 | N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 4.3 | N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.8 | C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 6.9 | C | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | .007 - .065 | 0.065 | NA | 0.8 | C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 350 | S | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 2.9 | C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 610 | N | | | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.61** | **N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 18 | N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 120 | N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 12 | N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 12 | N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.1 | N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 490 | N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.3 | N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 5.6 | N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 310 | N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **0.17** | **N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.3 | N | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | 1.1 | C | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **0.17** | **N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 310 | N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | NA | | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.3 | N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 24 | N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 31 | N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 31 | N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **0.17** | **N** | | | **YES** | **DLASL** |

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 1.2 - 6.5 | 6.5 | NA | 49 | N | | | NO | DLBSL |
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 370 | N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 5.6 | N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.049** | **N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 2,200 | N | | | NO | DLBSL |
| **1912-24-9** | **Atrazine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | NA | **2.2** | C | | | **YES** | **DLASL** |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 610 | N | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.62** | C | | | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.062** | **C** | | | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.62** | C | | | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 | N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.2 | C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 1,200 | N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 3,100 | N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 24 | C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 62 | C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 610 | N | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | 0.79 | J | 0.79 | J | MG/KG | OU5-S1-SD01-00 | 1/8 | 0.46 - 2.6 | 0.79 | NA | 240 | N | | | NO | BSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **0.66** | **J** | **0.66** | **J** | **MG/KG** | **OU5-S1-SD01-00** | **1/8** | **0.46 - 2.6** | **0.66** | **NA** | **0.062** | **C** | | | **YES** | **ASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 29 | N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 4,900 | N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 100,000 | M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 | N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 270 | N | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.3** | **C** | | | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 6.2 | C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 37 | N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 35 | C | | | NO | DLBSL |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.62** | **C** | | | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 510 | C | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 5.6 | N | | | NO | DLBSL |
| **98-95-3** | **Nitrobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **2** | **N** | | | **YES** | **DLASL** |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **1.2 - 6.5** | **6.5** | **NA** | **3** | C | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 | N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 3,700 | N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 230 | N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 3 | C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.21** | **C** | | | **YES** | **DLASL** |

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 1, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 35 C | | | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **.46 - 2.6** | **2.6** | **NA** | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | .46 - 2.6 | 2.6 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.7** | **J** | **9.9** | | **MG/KG** | **OU5-S1-SD06-00** | **8/8** | **1.2 - 6.3** | **9.9** | **NA** | **0.39 C** | | | **YES** | **ASL** |
| 7440-39-3 | Barium | 6.5 | J | 66.7 | | MG/KG | OU5-S1-SD01-00 | 8/8 | 24 - 130 | 66.7 | NA | 540 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.06 | J | 1.3 | J | MG/KG | OU5-S1-SD05-00 | 8/8 | 0.6 - 3.2 | 1.3 | NA | 3.7 N | | | NO | BSL |
| 7440-47-3 | Chromium | 5.9 | J | 27.8 | J | MG/KG | OU5-S1-SD02-00 | 8/8 | 1.2 - 6.3 | 27.8 | NA | 210 C | | | NO | BSL |
| 7439-92-1 | Lead | 6.7 | | 46.4 | | MG/KG | OU5-S1-SD05-00 | 8/8 | 0.36 - 1.9 | 46.4 | NA | 400 N | | | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.39 | | MG/KG | OU5-S1-SD05-00 | 8/8 | 0.041 - 0.23 | 0.39 | NA | 0.61 N | | | NO | BSL |
| 7782-49-2 | Selenium | 0.52 | | 2.74 | | MG/KG | OU5-S1-SD06-00 | 8/8 | 0.6 - 3.2 | 2.74 | NA | 39 N | | | NO | BSL |
| 7440-22-4 | Silver | 0.16 | | 0.82 | | MG/KG | OU5-S1-SD06-00 | 8/8 | 1.2 - 6.3 | 0.82 | NA | 39 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.
[2] Background values not available.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

TABLE 3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.21 | NA | 4.9 | | mg/kg | 4.9 | Max | (1) | 2.21 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 1.8 | NA | 2.5 | J | µg/L | 2.5 | Max | (1) | 1.8 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 3.7 | NA | 9.9 | | mg/kg | 9.9 | Max | (1) | 3.7 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.7 | NA | 0.7 | J | mg/kg | 0.3 | Max | (1) | 0.7 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 2.5 | NA | 9.4 | J | µg/L | 9.4 | Max | (1) | 2.5 | Mean-N | (2) |
| Chloroform | µg/L | 0.56 | NA | 1 | | µg/L | 1.0 | Max | (1) | 0.56 | Mean-N | (2) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples .

TABLE 3.5
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water in Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualfier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 2.5 | NA | 9.4 | J | µg/L | 9.4 | Max | (1) | 2.5 | Mean-N | (2) |
| Chloroform | µg/L | 0.56 | NA | 1 | | µg/L | 1.0 | Max | (1) | 0.56 | Mean-N | (2) |

Receptor type: Construction Worker

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples.

TABLE 3.6
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Chloroform | µg/L | 0.56 | NA | 1 | | µg/L | 1.0 | Max | (1) | 0.56 | Mean-N | (2) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples.

TABLE 3.7
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Chloroform | µg/L | 0.56 | NA | 1 | | µg/L | 1.0 | Max | (1) | 0.56 | Mean-N | (2) |

Receptor type: Construction Worker

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples.

TABLE 3.8
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.21 | NA | 4.9 | | mg/kg | 4.9 | Max | (1) | 2.21 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.9
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.9 | NA | 6.6 | | mg/kg | 6.6 | Max | (1) | 2.9 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.10
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.9 | NA | 6.6 | | mg/kg | 6.6 | Max | (1) | 2.9 | Mean-N | (1) |

Receptor type: Construction Worker

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.11
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 1.8 | NA | 2.5 | J | µg/L | 2.5 | Max | (1) | 1.8 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.12
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
MCAS Cherry Point, OU5, Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 3.7 | NA | 9.9 | | mg/kg | 9.9 | Max | (1) | 3.7 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.7 | NA | 0.7 | J | mg/kg | 0.3 | Max | (1) | 0.7 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 4-1

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 250 | EPA, 1991 | 219 | EPA, 1993 | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | - - | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,300 | EPA, 1992 | 2,000 | EPA, 1992 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.32 | EPA, 1997 | 0.32 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 250 | EPA, 1991 | 219 | EPA, 1993 | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: RME assumes exposure to head, hands, forearms, and lower legs, assuming individual wears a short sleeve shirt, shorts, and shoes.

CT assumes exposure to head and hands, assuming individual wears a long sleeve shirt, pants, and shoes.

SSAF: Maximum adherence factor for utility worker.

TABLE 4-2

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 4,600 | EPA, 1997 | 3,700 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Assumes skin surface area in contact with surface soil is 25% of total skin surface area. Used total skin surface area of 12-15 year male (1.49 $m^2$ for 50th percentile - CT, and 1.85$m^2$ for 95th percentile - RME).

SSAF: Soil adherence to hands, soccer #1.

TABLE 4-3

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | - - | see Table 3.1 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 8 | (1) | 4 | (1) | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 250 | EPA,1991 | 219 | EPA, 1993 | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA., 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |

(1) Professional judgement based on maintenance activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

PEF and VF calculated following method in EPA, 1996.

TABLE 4-4

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescent

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | - - | see Table 3.1 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996a | 1.32E+09 | EPA, 1996a | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996a | calc | EPA, 1996a | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 2 | (1) | 2 | (1) | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 45 | (2) | 23 | (2) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996b | 10 | EPA, 1996b | |
| | BW | Body Weight | kg | 45 | EPA, 1996b | 45 | EPA, 1996b | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming trespasser would spend a maximum of 2 hours at the site.

(2) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996a: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 1996b: Supplemental Guidance to RAGS: Region 4 Bulletins.

PEF and VF calculated following method in EPA, 1996.

TABLE 4-5

VALUES USED FOR DAILY INTAKE CALCULATIONS
MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | - - | see Table 3.2 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW | Ingestion Rate of Surface Water | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-SW x ET x EF x ED x CF1 x |
| | ET | Exposure Time | hr/day | 8 | (1) | 4 | (1) | 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |
| Dermal Absorption | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | - - | see Table 3.2 | - - | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 2001 | calculated | EPA, 2001 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | DAevent ($mg/cm^2$-event) = |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{event}$ x CF1 x CF2 |
| | $t_{event}$ | Duration of Event | hr/event | 8 | (1) | 4 | (1) | |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | Organics : |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | EV | Event Frequency | event/day | 1 | EPA, 2001 | 1 | EPA, 2001 | 2 x FA x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | x CF1 x CF2 |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | - - | 0.001 | - - | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |

(1): Professional judgement assuming 15 days per year exposure frequency for the RME and CT, and 8 hours exposure time for RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1995: Exposure Factors Handbook. USEPA/600/8-89-043.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

SA: Skin surface area in contact with surface water based on contact while wading. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet).

TABLE 4-6

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaty
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | -- | see Table 3.2 | -- | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW | Ingestion Rate of Surface Water | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-SW x ET x EF x ED x CF1 x |
| | ET | Exposure Time | hr/day | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | -- | 0.001 | -- | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |
| Dermal Absorption | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | -- | see Table 3.2 | -- | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 2001 | calculated | EPA, 2001 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | DAevent ($mg/cm^2$-event) = |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{even}$ x CF1 x CF2 |
| | $t_{event}$ | Duration of Event | hr/event | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,500 | EPA, 1997 | 4,500 | EPA, 1997 | Organics : |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | -- | 0.001 | -- | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | EV | Event Frequency | event/day | 1 | EPA, 2001 | 1 | EPA, 2001 | 2 x FA x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | x CF1 x CF2 |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | -- | 0.001 | -- | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1996: Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

SA: Skin surface area in contact with surface water based on contact while wading. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet) of 12-15 year old male.

TABLE 4-7

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-Sed | Ingestion Rate of Sediment | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CSed x IR-Sed x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,300 | EPA, 1992 | 2,000 | EPA, 1992 | CSed x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.32 | EPA, 1997 | 0.32 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | EPA, 1989 | |

(1): Professional judgement assuming 15 days per year exposure frequency for the RME and CT, and 8 hours exposure time for RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund, Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: RME assumes exposure to head, hands, forearms, and lower legs, assuming individual wears a short sleeve shirt, shorts, and shoes.

CT assumes exposure to head and hands, assuming individual wears a long sleeve shirt, pants, and shoes.

SSAF: Soil adherence factor for rugby #1.

TABLE 4-8

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-Sed | Ingestion Rate of Sediment | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CSed x IR-Sed x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration In Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,500 | EPA, 1997 | 4,500 | EPA, 1997 | CSed x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1995: Assessing Dermal Exposure from Soil. EPA Region III. EPA/903-K-95-003.

EPA, 1996: Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with sediment based on contact while wading. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet) of 12-15 year old male.

TABLE 4-9

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CW | Chemical Concentration in Water | µg/l | see Table 3.4 | | see Table 3.4 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-W | Ingestion Rate of Water | liters/day | 2 | EPA, 1997 | 1.4 | EPA, 1993 | CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3285 | EPA, 1989 | |

(1) Not available, used RME value.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

Note: Following EPA Region 4 guidance, exposure to groundwater from showering (dermal and inhalation) is assumed to be equivalent to ingestion exposure.

TABLE 4-10

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CW | Chemical Concentration in Water | µg/l | see Table 3.4 | | see Table 3.4 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-W | Ingestion Rate of Water | liters/day | 1 | EPA, 1997 | 1 | EPA, 1997 | CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CW | Chemical Concentration in Water | µg/l | see Table 3.4 | | see Table 3.4 | chem specific | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 2001 | calculated | EPA, 2001 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | - - | 0.001 | - - | |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | DAevent ($mg/cm^2$-event) = |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{even}$ x CF1 x CF2 |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Organics : |
| | $t_{event}$ | Duration of Event | hr/event | 0.33 | EPA, 2001 | 0.33 | EPA, 2001 | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 10,000 | EPA, 1997 | 7,500 | EPA, 1997 | 2 x FA x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EV | Event Frequency | events/day | 1 | EPA, 2001 | 1 | EPA, 2001 | x CF1 x CF2 |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

SA: Assumes total skin surface area in contact with groundwater during showering.

TABLE 4-11

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CW | Chemical Concentration in Water | µg/l | see Table3.4 | | see Table 3.4 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-W-A | Ingestion Rate of Water, Adult | liters/day | 2 | EPA, 1997 | 1.4 | EPA, 1993 | CW x IR-W-Adj x EF x CF1 x 1/AT |
| | IR-W-C | Ingestion Rate of Water, Child | liters/day | 1 | EPA, 1997 | 1 | EPA, 1997 | |
| | IR-W-Adj | Ingestion Rate of Water, Age-adjusted | liter-year/kg-day | 1.09 | calculated | 0.58 | calculated | IR-W-Adj (liter-year/kd-day) = |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | (ED-C x IR-W-C / BW-C) + (ED-A x IR-W-A / BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-12

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Dermal Absorption | CW | Chemical Concentration in Water | µg/l | see Table 3.5 | | see Table 3.5 | chem specific | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | modeled | EPA, 2001 | modeled | EPA, 2001 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | - - | 0.001 | - - | |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | DAevent ($mg/cm^2$-event) = |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{even}$ x CF1 x CF2 |
| | $t^*$ | Time to Reach Steady-state | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Organics : |
| | $t_{event}$ | Duration of Event | hr/event | 8 | (1) | 4 | (1) | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | 2 x FA x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EV | Event Frequency | events/day | 1 | (1) | 1 | (1) | x CF1 x CF2 |
| | EF | Exposure Frequency | days/year | 40 | (1) | 40 | (1) | |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1991 | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |

(1) Professional Judgement based on construction activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT. Assumed exposure to open excavation would be 40 days

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

SA: Skin surface area in contact with groundwater based on contact during construction activities. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet).

TABLE 4-13

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CDI | Chonic daily intake from showering | mg/kg-day | modeled | EPA, 1996 | modeled | EPA, 1996 | Exposure from showering (inhalation and dermal) equal to exposure from ingestion |

Sources:

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

TABLE 4-14

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Water Vapors at Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CA | Air Concentration | $mg/m^3$ | modeled | | modeled | | CA calculated from CW using two-film volatilation model |
| | CW | Chemical Concentration in Water | µg/l | see Table 3.7 | | see Table 3.7 | chem specific | |
| | IN | Inhalation Rate | $m^3$/hour | 1.7 | EPA, 1997 | 1.7 | EPA, 1997 | |
| | ET | Exposure Time | hr/day | 8 | (1) | 4 | (1) | |
| | EF | Exposure Frequency | days/year | 40 | (1) | 40 | (1) | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1993 | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |

(1) Professional Judgement based on construction activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT. Assume exposure to open excavation would be 40 days

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991; Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-15

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | - - | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | --- | chem specific | EPA, 1996 | chem specific | EPA, 1995 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for adult resident wearing a short-sleeved shirt, shorts, and shoes. Exposed area includes head, hands, forearms, and lower legs.

TABLE 4-16

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 3,400 | EPA, 1997 | 2,900 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for child resident wearing a short-sleeved shirt and shorts (no shoes). Exposed area includes head, hands, forearms, lower legs, and feet.

SSAF: Soil adherence to hands, soccer #1.

TABLE 4-17

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S-A | Ingestion Rate of Soil, Adult | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S-Adj x EF x CF3 x 1/AT |
| | IR-S-C | Ingestion Rate of Soil, Child | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | |
| | IR-S-Adj | Ingestion Rate of Soil, Age-adjusted | mg-year/kg-day | 114.29 | calculated | 46.43 | calculated | IR-S-Adj (mg-year/kd-day) = |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | (ED-C x IR-S-C / BW-C) + (ED-A x IR-S-A / BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | CDI (mg/kg-day) = |
| | SA-A | Skin Surface Area Available for Contact, Adult | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x DA-Adj x DABS x CF3 x EF x 1/AT |
| | SA-C | Skin Surface Area Available for Contact, Child | $cm^2$ | 3,400 | EPA, 1997 | 2,900 | EPA, 1997 | |
| | SSAF-A | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | |
| | SSAF-C | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | DA-Adj (mg-year/kd-day) = |
| | DA-Adj | Dermal Absorption, Age-adjusted | mg-year/kg-day | 602 | calculated | 274 | calculated | [(ED-C x SA-C x SSAF-C/ BW-C) + |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | (ED-A x SA-A x SSAF-A / BW-A)] |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund, Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-18

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | - - | see Table 3.8 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 24 | - - | 24 | - - | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA,1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

TABLE 4-19

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | - - | see Table 3.8 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.5 | EPA, 2000 | 0.5 | EPA, 2000 | |
| | ET | Exposure Time | hr/day | 24 | - - | 24 | - - | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 2000: Region III, Risk-based Concentration Table.

TABLE 4-20

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | -- | modeled | -- | CA x IN-Adj x EF x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | IN-A | Inhalation Rate, Adult | $m^3$/hour | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | IN-C | Inhalation Rate, Child | $m^3$/hour | 0.5 | EPA, 2000 | 0.5 | EPA, 2000 | IN-Adj ($m^3$-year/kd-day) = |
| | IN-Adj | Inhalation Rate, Age-adjusted | $m^3$-year/kg-day | 11.66 | calculated | 7.37 | calculated | (ED-C x IN-C x ET / BW-C) + (ED-A x IN-A x ET / BW-A) |
| | ET | Exposure Time | hours/day | 24 | (1) | 24 | (1) | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

(1) Professional Judgement conservatively assumed all day.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 2000: Region III, Risk-based Concentration Table.

TABLE 4-21

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | - - | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1995 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for adult resident wearing a short-sleeved shirt, shorts, and shoes. Exposed area includes head, hands, forearms, and lower legs.

TABLE 4-22

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 3,400 | EPA, 1997 | 2,900 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for child resident wearing a short-sleeved shirt and shorts (no shoes). Exposed area includes head, hands, forearms, lower legs, and feet.

SSAF: Soil adherence to hands, soccer #1.

TABLE 4-23

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S-A | Ingestion Rate of Soil, Adult | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S-Adj x EF x CF3 x 1/AT |
| | IR-S-C | Ingestion Rate of Soil, Child | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | |
| | IR-S-Adj | Ingestion Rate of Soil, Age-adjusted | mg-year/kg-day | 114.29 | calculated | 46.43 | calculated | IR-S-Adj (mg-year/kd-day) = |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | (ED-C x IR-S-C / BW-C) + (ED-A x IR-S-A / BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | | CDI (mg/kg-day) = |
| | SA-A | Skin Surface Area Available for Contact, Adult | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x DA-Adj x DABS x CF3 x EF x 1/AT |
| | SA-C | Skin Surface Area Available for Contact, Child | $cm^2$ | 3,400 | EPA, 1997 | 2,900 | EPA, 1997 | |
| | SSAF-A | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | |
| | SSAF-C | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | DA-Adj (mg-year/kd-day) = |
| | DA-Adj | Dermal Absorption, Age-adjusted | mg-year/kg-day | 602 | calculated | 274 | calculated | [(ED-C x SA-C x SSAF-C/ BW-C) + |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | (ED-A x SA-A x SSAF-A / BW-A)] |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund, Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-24

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.10 | | see Table 3.10 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 480 | EPA, 1991 | 480 | EPA, 1991 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 40 | (1) | 40 | (1) | |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.10 | | see Table 3.10 | - - | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,300 | EPA, 1992 | 2,000 | EPA, 1992 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.24 | EPA, 1997 | 0.24 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 40 | (1) | 40 | (1) | |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1991 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |

(1) Professional Judgement based on construction activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT. Assume exposure to open excavation would be 40 days

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: RME assumes exposure to head, hands, forearms, and lower legs, assuming individual wears a short sleeve shirt, shorts, and shoes.

CT assumes exposure to head and hands, assuming individual wears a long sleeve shirt, pants, and shoes.

SSAF: Soil adherence factor for construction worker.

TABLE 4-25

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | - - | see Table 3.9 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 24 | - - | 24 | - - | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA,1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

TABLE 4-26

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | - - | see Table 3.9 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.5 | EPA, 2000 | 0.5 | EPA, 2000 | |
| | ET | Exposure Time | hr/day | 24 | - - | 24 | - - | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 2000: Region III, Risk-based Concentration Table.

TABLE 4-27

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | | modeled | | CA x IN-Adj x EF x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | IN-A | Inhalation Rate, Adult | $m^3$/hour | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | IN-C | Inhalation Rate, Child | $m^3$/hour | 0.5 | EPA, 2000 | 0.5 | EPA, 2000 | IN-Adj ($m^3$-year/kd-day) = |
| | IN-Adj | Inhalation Rate, Age-adjusted | $m^3$-year/kg-day | 11.66 | calculated | 7.37 | calculated | (ED-C x IN-C x ET / BW-C) + (ED-A x IN-A x ET / BW-A) |
| | ET | Exposure Time | hours/day | 24 | (1) | 24 | (1) | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

(1) Professional Judgement conservatively assumed all day.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance. Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 2000: Region III, Risk-based Concentration Table.

TABLE 4-28

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Exposed Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.10 | | see Table 3.10 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.62E+06 | (1) | 1.62E+06 | (1) | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 1.7 | EPA, 1997 | 1.7 | EPA, 1997 | |
| | ET | Exposure Time | hr/day | 8 | (2) | 4 | (2) | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 40 | (2) | 40 | (2) | |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1991 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |

(1) Calculated in Appendix I.3, Generation of Fugitive Dust During Construction Activities.

(2) Professional Judgement based on construction activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT. Assume exposure to open excavation would be 40 days.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-29
VALUES USED FOR DAILY INTAKE CALCULATIONS
MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.11 | -- | see Table 3.11 | -- | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW | Ingestion Rate of Surface Water | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-SW x ET x EF x ED x CF1 x |
| | ET | Exposure Time | hr/day | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | -- | 0.001 | -- | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 8,760 | EPA, 1989 | |
| Dermal Absorption | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.11 | -- | see Table 3.11 | -- | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 2001 | calculated | EPA, 2001 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: DAevent ($mg/cm^2$-event) = |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{event}$ x CF1 x CF2 |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $t_{event}$ | Duration of Event | hr/event | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | Organics : |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | -- | 0.001 | -- | 2 x FA x Kp x CW x (sqrt((6 x$\tau$ x $t_{event}$)/3.1415)) |
| | EV | Event Frequency | event/day | 1 | EPA, 2001 | 1 | EPA, 2001 | x CF1 x CF2 |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 24 | EPA, 1991 | |
| | CF2 | Conversion Factor 2 | $l/cm^2$ | 0.001 | -- | 0.001 | -- | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + 3x$B^2$)/(1+B)$^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 8,760 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

SA: Skin surface area in contact with surface water based on contact while wading. Assumed 30 percent of total surface area (hands, forearms, lower legs, and feet).

TABLE 4-30
VALUES USED FOR DAILY INTAKE CALCULATIONS
MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.11 | - - | see Table 3.11 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW | Ingestion Rate of Surface Water | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-SW x ET x EF x ED x CF1 x |
| | ET | Exposure Time | hr/day | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.11 | - - | see Table 3.11 | - - | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | mg/cm$^2$-event | calculated | EPA, 2001 | calculated | EPA, 2001 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: DAevent (mg/cm$^2$-event) = |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{event}$ x CF1 x CF2 |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $t_{event}$ | Duration of Event | hr/event | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | Organics : |
| | SA | Skin Surface Area Available for Contact | cm$^2$ | 2,380 | EPA, 1997 | 2,094 | EPA, 1997 | $t_{event}$<$t^*$: DAevent (mg/cm$^2$-event) = |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | 2 x FA x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EV | Event Frequency | event/day | 1 | EPA, 2001 | 1 | EPA, 2001 | x CF1 x CF2 |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF2 | Conversion Factor 2 | l/cm$^3$ | 0.001 | - - | 0.001 | - - | $t_{event}$>$t^*$: DAevent (mg/cm$^2$-event) = |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

SA: Skin surface area in contact with surface water based on contact while wading. Assumed 30 percent of total surface area of 5-6 year old male for RME and average of 2-3 and 5-6 year old male for CT.

TABLE 4-31
VALUES USED FOR DAILY INTAKE CALCULATIONS
MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.11 | - - | see Table 3.11 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW-A | Ingestion Rate of Surface Water, Adult | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-W-Adj x EF x CF1 x 1/AT |
| | IR-SW-C | Ingestion Rate of Surface Water, Child | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | |
| | IR-W-Adj | Ingestion Rate of Surface Water, Age-adj | liter-year/kg-day | 0.02 | calculated | 0.01 | calculated | IR-W-Adj (liter-year/kg-day) = |
| | ET | Exposure Time | hr/day | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | (ED-C x IR-SW-C x ET/ BW-C) |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | + (ED-A x IR-SW-A x ET/ BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| Dermal Absorption | CW | Chemical Concentration in Water | µg/l | see Table 3.11 | - - | see Table 3.11 | see Table . . | CDI (mg/kg-day) = |
| | Daevent | Dermally Absorbed Dose per Event | mg/cm$^2$-event | calculated | EPA, 2001 | calculated | EPA, 2001 | DAevent x EF x 1/AT |
| | DA-Adj | Dermally Absorbed Dose, Age-adjusted | mg-year/event-kg | calculated | | calculated | | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | DA-Adj = (DAevent x SA-A x ED-A x 1/BW-A) |
| | FA | Fraction Absorbed | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | + (DAevent x SA-C x ED-C x 1/BW-C) |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Inorganics: DAevent (mg/cm$^2$-event) = |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 2001 | chem specific | EPA, 2001 | Kp x CW x $t_{event}$ x CF1 x CF2 |
| | $t_{event}$ | Duration of Event | hr/event | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | |
| | CF2 | Conversion Factor 2 | l/cm$^3$ | 0.001 | - - | 0.001 | - - | Organics : |
| | SA-A | Skin Surface Area, Adult | cm$^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | $t_{event}$<$t^*$: DAevent (mg/cm$^2$-event) = |
| | SA-C | Skin Surface Area, Child | cm$^2$ | 2,380 | EPA, 1997 | 2,094 | EPA, 1997 | 2 x FA x Kp x CW x (sqrt((6 x$\tau$ x $t_{event}$)/3.1415)) |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | x CF1 x CF2 |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | (1) | $t_{event}$>$t^*$: DAevent (mg/cm$^2$-event) = |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | FA x Kp x CW x ( $t_{event}$/(1+B) + 2 x$\tau$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | x CF1 x CF2 |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:


EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

EPA, 2001: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. EPA/540/R/99/005.

TABLE 4-32

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.12 | | see Table 3.12 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-Sed | Ingestion Rate of Sediment | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CSed x IR-Sed x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 8,760 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.12 | | see Table 3.12 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | CSed x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.32 | EPA, 1997 | 0.32 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 8,760 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with sediment based on contact while wading. Assumed 30 percent of total surface area (hands, forearms, lower legs, and feet).

SSAF: Soil adherence factor for rugby #1.

TABLE 4-33

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.12 | | see Table 3.12 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-Sed | Ingestion Rate of Sediment | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | CSed x IR-Sed x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.12 | | see Table 3.12 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 2,380 | EPA, 1997 | 2,094 | EPA, 1997 | CSed x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 36 | EPA, 1997 | 22.75 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with surface water based on contact while wading. Assumed 30 percent of total surface area of 5-6 year old male for RME and average of 2-3 and 5-6 year old male for CT.

SSAF: Soil adherence factor for Kids-in-mud No. 1 from EPA, 1997. CT SSAF is average soil adherence to legs Kids-in-mud No. 1 and No. 2.

TABLE 4-34
VALUES USED FOR DAILY INTAKE CALCULATIONS
MCAS Cherry Point OU5, Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.12 | | see Table 3.12 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S-A | Ingestion Rate of Soil, Adult | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CSed x IR-S-Adj x EF x CF3 x 1/AT |
| | IR-S-C | Ingestion Rate of Soil, Child | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | |
| | IR-S-Adj | Ingestion Rate of Soil, Age-adjusted | mg-year/kg-day | 114.29 | calculated | 46.43 | calculated | IR-S-Adj (mg-year/kd-day) = |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | (ED-C x IR-S-C / BW-C) + (ED-A x IR-S-A / BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.12 | | see Table 3.12 | | CDI (mg/kg-day) = |
| | SA-A | Skin Surface Area Available for Contact, Adult | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | CSed x DA-Adj x DABS x CF3 x EF x 1/AT |
| | SA-C | Skin Surface Area Available for Contact, Child | $cm^2$ | 2,380 | EPA, 1997 | 2,094 | EPA, 1997 | |
| | SSAF-A | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.32 | EPA, 1997 | 0.32 | EPA, 1997 | |
| | SSAF-C | Soil to Skin Adherence Factor | $mg/cm^2$-day | 36 | EPA, 1997 | 22.75 | EPA, 1997 | DA-Adj (mg-year/kd-day) = |
| | DA-Adj | Dermal Absorption, Age-adjusted | mg-year/kg-day | 34,930 | calculated | 19,278 | calculated | [(ED-C x SA-C x SSAF-C/ BW-C) + |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | (ED-A x SA-A x SSAF-A/ BW-A)] |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Oral RfD Value | Oral RfD Units | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenapthene | Chronic | 6.0E-02 | mg/kg-day | 58%-89% | 6.0E-02 | mg/kg-day | Liver | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | 6.0E-01 | mg/kg-day | 58%-89% | 6.0E-01 | mg/kg-day | Liver | 300 | | |
| Acenaphthylene | Chronic | N/A | | 58%-89% | | | | | | |
| | Subchronic | N/A | | | | | | | | |
| Acetone | Chronic | 3.0E-01 | mg/kg-day | NA | 3.0E-01 | mg/kg-day | Blood, Kidney | 1000/1 | NCEA | 6/30/2002 |
| | Subchronic | N/A | | | | | | | | |
| Acetophenone | Chronic | 1.0E-01 | mg/kg-day | NA | 1.0E-01 | mg/kg-day | NOAEL | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | 1.0E+00 | mg/kg-day | NA | 1.0E+00 | mg/kg-day | NOAEL | 300 | HEAST | 07/1997 |
| Anthracene | Chronic | 3.0E-01 | mg/kg-day | 58%-89% | 3.0E-01 | mg/kg-day | NOAEL | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E+00 | mg/kg-day | 58%-89% | 3.0E+00 | mg/kg-day | NOAEL | 300 | HEAST | 07/1997 |
| Arsenic | Chronic | 3.0E-04 | mg/kg-day | 95% | 3.0E-04 | mg/kg-day | Skin/vascular | 3/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-04 | mg/kg-day | 95% | 3.0E-04 | mg/kg-day | Skin/vascular | 3 | HEAST | 07/1997 |
| Atrazine | Chronic | 3.5E-02 | mg/kg-day | NA | 3.5E-02 | mg/kg-day | Whole Body | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.5E-02 | mg/kg-day | NA | 3.5E-02 | mg/kg-day | Whole Body | 100 | HEAST | 07/1997 |
| Benzene | Chronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Blood | 3000 | NCEA | 7/2/1996 |
| | Subchronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Blood | 3000 | NCEA | 07/1998 |
| Benzo(a)anthracene | Chronic | N/A | | 58%-89% | | | | | | |
| Benzo(a)pyrene | Chronic | N/A | | 58%-89% | | | | | | |
| Benzo(b)fluoranthene | Chronic | N/A | | 58%-89% | | | | | | |
| Benzo(g,h,i)perylene | Chronic | N/A | | 58%-89% | | | | | | |
| Benzo(k)fluoranthene | Chronic | N/A | | 58%-89% | | | | | | |
| bis(2-Chloroethoxy)methane | Chronic | N/A | | 58%-89% | | | | | | |
| bis(2-Chloroethyl)ether | Chronic | N/A | | 58%-89% | | | | | | |
| bis(2-Ethylhexyl)phthalate) | Chronic | 2.0E-02 | mg/kg-day | NA | 2.0E-02 | mg/kg-day | Liver | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-02 | mg/kg-day | NA | 2.0E-02 | mg/kg-day | Reproductive | 3000 | NCEA | 3/28/1996 |
| Bromodichloromethane | Chronic | 2.0E-02 | mg/kg-day | NA | 2.0E-02 | mg/kg-day | Kidney | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-02 | mg/kg-day | NA | 2.0E-02 | mg/kg-day | Kidney | 1000 | HEAST | 07/1997 |
| Bromoform | Chronic | 2.0E-02 | mg/kg-day | NA | 2.0E-02 | mg/kg-day | Liver | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-01 | mg/kg-day | NA | 2.0E-01 | mg/kg-day | Liver | 100 | HEAST | 07/1997 |
| Bromomethane | Chronic | 1.4E-03 | mg/kg-day | NA | 1.4E-03 | mg/kg-day | Gastrointestinal | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | | |
| Carbon Tetrachloride | Chronic | 7.0E-04 | mg/kg-day | NA | 7.0E-04 | mg/kg-day | Liver | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | | |

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Oral RfD Value | Oral RfD Units | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloroform | Chronic | 1.0E-02 | mg/kg-day | NA | 1.0E-02 | mg/kg-day | Liver | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 1.0E-02 | mg/kg-day | NA | 1.0E-02 | mg/kg-day | Liver | 1000 | HEAST | 07/1997 |
| Chloromethane | Chronic | NA | | | | | | | | |
| | Subchronic | NA | | | | | | | | |
| 2-Chlorophenol | Chronic | 5.0E-03 | mg/kg-day | NA | 5.0E-03 | mg/kg-day | Reproduction | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 5.0E-02 | mg/kg-day | NA | 5.0E-02 | mg/kg-day | Reproduction | 100 | IRIS | 10/10/2002 |
| Chromium (hexavalent) | Chronic | 3.0E-03 | mg/kg-day | 2.5% | 7.5E-05 | mg/kg-day | NOAEL | 300/3 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-02 | mg/kg-day | 2.5% | 5.0E-04 | mg/kg-day | NOAEL | 100 | HEAST | 07/1997 |
| Chrysene | Chronic | N/A | | 58%-89% | | | | | | |
| Dibenzo(a,h)anthracene | Chronic | N/A | | 58%-89% | | | | | | |
| 1,1-Dichloroethene | Chronic | 5.0E-02 | mg/kg-day | NA | 5.0E-02 | mg/kg-day | Liver | 100 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | Chronic | N/A | | | | | | | | |
| | Subchronic | N/A | | | | | | | | |
| 1,2-Dibromoethane | Chronic | N/A | | | | | | | | |
| | Subchronic | N/A | | | | | | | | |
| 1,2-Dichloroethane | Chronic | 3.0E-02 | mg/kg-day | NA | 3.0E-02 | mg/kg-day | Liver | 1000 | NCEA | 4/5/1993 |
| | Subchronic | N/A | | | | | | | | |
| 1,2-Dichoropropane | Chronic | N/A | | | | | | | | |
| | Subchronic | N/A | | | | | | | | |
| 1,3-Dichlorobenzene | Chronic | 3.0E-02 | mg/kg-day | NA | 3.0E-02 | mg/kg-day | Liver | 1000 | NCEA | 3/7/1996 |
| | Subchronic | N/A | | | | | | | | |
| 1,4-Dichlorobenzene | Chronic | 3.0E-02 | mg/kg-day | NA | 3.0E-02 | mg/kg-day | Liver | 1000 | NCEA | 3/7/1996 |
| | Subchronic | N/A | | | | | | | | |
| 2,4-Dinitrophenol | Chronic | 2.0E-03 | mg/kg-day | NA | 2.0E-03 | mg/kg-day | Eyes | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-03 | mg/kg-day | NA | 2.0E-03 | mg/kg-day | Eyes | 1000 | HEAST | 07/1997 |
| 2,4-Dinitrotoluene | Chronic | 2.0E-03 | mg/kg-day | NA | 2.0E-03 | mg/kg-day | Nervous System | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-03 | mg/kg-day | NA | 2.0E-03 | mg/kg-day | Nervous System | 100/1 | HEAST | 07/1997 |
| 2,6-Dinitrotoluene | Chronic | 1.0E-03 | mg/kg-day | NA | 1.0E-03 | mg/kg-day | Whole Body, CNS, Blood, Bile Duct, Kidney | 3000/1 | HEAST | 07/1997 |
| | Subchronic | 1.0E-02 | mg/kg-day | NA | 1.0E-02 | mg/kg-day | Whole Body, CNS, Blood, Bile Duct, Kidney | 300 | HEAST | 07/1997 |
| 3,3-Dichlorobenzidine | Chronic | N/A | | | | | | | | |
| | Subchronic | N/A | | | | | | | | |

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Oral RfD Value | Oral RfD Units | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal RfD (2) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfD: Target Organ | Dates of RfD: Target Organ (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,6-Dinitro-2-methylphenol | Chronic | 1.0E-04 | mg/kg-day | NA | 1.0E-04 | mg/kg-day | CNS, Eyes | | NCEA | |
| | Subchronic | N/A | | | | | | | | |
| cis-1,3-Dichloropropene | Chronic | 3.0E-02 | mg/kg-day | NA | 3.0E-02 | mg/kg-day | Chronic Irritation | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Organs | 1000 | HEAST | 07/1997 |
| Dibenzofuran | Chronic | 4.0E-03 | mg/kg-day | 58%-89% | 4.0E-03 | mg/kg-day | Kidney | | NCEA | |
| | Subchronic | N/A | | | | | | | | |
| Dibromochloromethane | Chronic | 2.0E-02 | mg/kg-day | NA | 2.0E-02 | mg/kg-day | Liver | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.0E-01 | mg/kg-day | NA | 2.0E-01 | mg/kg-day | Liver | 100 | HEAST | 07/1997 |
| trans-1,3-Dichloropropene | Chronic | 3.0E-02 | mg/kg-day | NA | 3.0E-02 | mg/kg-day | Chronic Irritation | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Organs | 1000 | HEAST | 07/1997 |
| Fluoranthene | Chronic | 4.0E-02 | mg/kg-day | 58%-89% | 4.0E-02 | mg/kg-day | Kidney/Liver/Blood | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | 4.0E-01 | mg/kg-day | 58%-89% | 4.0E-01 | mg/kg-day | Kidney/Liver/Blood | 300 | HEAST | 07/1997 |
| Fluorene | Chronic | 4.0E-02 | mg/kg-day | 58%-89% | 4.0E-02 | mg/kg-day | Blood | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | 4.0E-01 | mg/kg-day | 58%-89% | 4.0E-01 | mg/kg-day | Blood | 300 | HEAST | 07/1997 |
| Hexachlorobenzene | Chronic | 8.0E-04 | mg/kg-day | NA | 8.0E-04 | mg/kg-day | Liver | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | | |
| Hexachlorobutadiene | Chronic | 2.0E-04 | mg/kg-day | NA | 2.0E-04 | mg/kg-day | Renal | 1000 | HEAST | 07/1997 |
| Hexachloroethane | Chronic | 1.0E-03 | mg/kg-day | NA | 1.0E-03 | mg/kg-day | Kidney | 1000 | IRIS | 10/10/2002 |
| | Subchronic | 1.0E-02 | mg/kg-day | NA | 1.0E-02 | mg/kg-day | Kidney | 100 | HEAST | 07/1997 |
| 2-Hexanone | Chronic | 4.0E-02 | mg/kg-day | NA | 4.0E-02 | mg/kg-day | CNS | 10000 | NCEA | 06/1993 |
| Indeno(1,2,3-cd)pyrene | Chronic | N/A | | 58%-89% | | | | | | |
| Mercury | Chronic | N/A | | 74%-80% | | | | | | |
| 2-Methylnaphthalene | Chronic | 2.0E-02 | mg/kg-day | 58%-89% | 2.0E-02 | mg/kg-day | NA | NA | NA | 2/27/2002 |
| 4-Methylphenol | Chronic | 5.0E-03 | mg/kg-day | NA | 5.0E-03 | mg/kg-day | CNS, RESP & Whole Body | 1000 | HEAST | 07/1997 |
| | Subchronic | 5.0E-03 | mg/kg-day | NA | 5.0E-03 | mg/kg-day | CNS, RESP & Whole Body | 1000 | HEAST | 07/1997 |
| Naphthalene | Chronic | 2.0E-02 | mg/kg-day | 58%-89% | 2.0E-02 | mg/kg-day | Decreased Body Weight | 3000/1 | IRIS | 2/7/2002 |
| 2-Nitroaniline | Chronic | N/A | | | | | | | | |
| 3-Nitroaniline | Chronic | 3.0E-04 | mg/kg-day | NA | 3.0E-04 | mg/kg-day | Liver, Blood, CNS | | NCEA | |
| | Subchronic | N/A | | | | | | | | |
| 4-Nitroaniline | Chronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Liver, Blood, CNS | | NCEA | |
| | Subchronic | N/A | | | | | | | | |
| Nitrobenzene | Chronic | 5.0E-04 | mg/kg-day | NA | 5.0E-04 | mg/kg-day | Blood/Adrenal/Kidney/ Liver | 10000/1 | IRIS | 10/10/2002 |
| | Subchronic | 5.0E-03 | mg/kg-day | NA | 5.0E-03 | mg/kg-day | Blood/Adrenal/Kidney/ Liver | 1000 | HEAST | 07/1997 |

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

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|---|---|---|---|---|---|---|---|---|---|---|
| n-Nitroso-di-n-propylamine | Chronic | N/A | | | | | | | | |
| n-Nitrosodiphenylamine | Chronic | N/A | | | | | | | | |
| Pentachlorophenol (diet) | Chronic | 3.0E-02 | mg/kg-day | 76% | 3.0E-02 | mg/kg-day | Liver/Kidney | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-02 | mg/kg-day | 76% | 3.0E-02 | mg/kg-day | Fetus | 100 | HEAST | 07/1997 |
| Pentachlorophenol (water) | Chronic | 3.0E-02 | mg/kg-day | 100% | 3.0E-02 | mg/kg-day | Liver/Kidney | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-02 | mg/kg-day | 100% | 3.0E-02 | mg/kg-day | Fetus | 100 | HEAST | 07/1997 |
| Phenanthrene | Chronic | N/A | | | | | | | | |
| Pyrene | Chronic | 3.0E-02 | mg/kg-day | 58%-89% | 3.0E-02 | mg/kg-day | Kidney | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-01 | mg/kg-day | 58%-89% | 3.0E-01 | mg/kg-day | Kidney | 300 | HEAST | 07/1997 |
| 1,1,2, 2-Tetrachloroethane | Chronic | 6.0E-02 | mg/kg-day | NA | 6.0E-02 | mg/kg-day | Liver and Kidney | | NCEA | 3/30/2000 |
| | Subchronic | N/A | | | | | | | | |
| Tetrachloroethene | Chronic | 1.0E-02 | mg/kg-day | NA | 1.0E-02 | mg/kg-day | Liver/whole body | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 1.0E-01 | mg/kg-day | NA | 1.0E-01 | mg/kg-day | Liver | 100 | HEAST | 07/1997 |
| Trichloroethene | Chronic | 3.0E-04 | mg/kg-day | NA | 3.0E-04 | mg/kg-day | Liver, Kidney, Fetus | | NCEA | 08/2001 |
| | Subchronic | NA | | | | | | | | |
| 1,1,2-Trichloroethane | Chronic | 4.0E-03 | mg/kg-day | NA | 4.0E-03 | mg/kg-day | Blood | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | 4.0E-02 | mg/kg-day | NA | 4.0E-02 | mg/kg-day | Blood | 100 | HEAST | 07/1997 |
| 2,4,6-Trichlorophenol | Chronic | N/A | | NA | | | | | | |
| | Subchronic | N/A | | | | | | | | |
| Vinyl chloride (lifetime from birth) | Chronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Liver | 30/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | | |
| Vinyl chloride (lifetime from adult) | Chronic | 3.0E-03 | mg/kg-day | NA | 3.0E-03 | mg/kg-day | Liver | 30/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | | |

N/A = Not Applicable or Not Available. IRIS indicates that calculations of dermal risks may not be appropriate for this chemical.

(1) Source: Risk Assessment Guidance for Superfund. Volume 1: Human Health Evalution Manual (Part E, Supplemetnal Guidance for Dermal Risk Assessment( Interim). Section 4.2 and Exhibit 4-1, EPA 2001). Only perform adjustment if adjustment factor > 50%.

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

NCEA = National Center for Environmental Assessment

(2) Adjusted Dermal RfD calculated by multiplying Oral RfD by the Oral to Dermal Adjustment Factor

(3) For IRIS values, provide the date IRIS was searched.
For HEAST values, provide the date of HEAST.
For NCEA values, provide the date of the article provided by NCEA.

RESP = Respiratory System

CNS = Central Nervous System

NOAEL = No observed adverse effect level

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Value Inhalation RfC | Units | Adjusted Inhalation RfD (1) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfC:RfD: (2) | Dates (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|
| Acenapthene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Acenaphthlene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Acetone | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Acetophenone | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Anthracene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Arsenic | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Benzene | Chronic | 5.9E-03 | mg/m3 | 1.7E-03 | mg/kg-day | Blood | N/A | NCEA | 9/1/1988 |
| | Subchronic | 6.0E-02 | mg/m3 | 1.7E-02 | mg/kg-day | Blood | 100 | NCEA | 7/2/1996 |
| Benzo(a)anthracene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Benzo(a)pyrene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Benzo(b)fluoranthene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Benzo(g,h,I)perylene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Benzo(k)fluoranthene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| bis(2-Chloroethyl)ether | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| bis(2-Ethylhexyl)phthalate | Subchronic | 1.0E-02 | mg/m3 | 2.9E-03 | mg/kg-day | Lung | 1000/1 | NCEA | 3/18/1996 |
| Bromodichloromethane | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Bromoform | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Bromomethane | Chronic | 5.00E-03 | $mg/m^3$ | 1.4E-03 | mg/kg-day | Nose | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |
| Carbon tetrachloride | Chronic | 2.00E-03 | $mg/m^3$ | 5.71E-04 | mg/kg-day | Liver | | NCEA | |
| | Subchronic | N/A | | | | | | | |
| Chloroform | Chronic | 3.01E-04 | $mg/m^3$ | 8.60E-05 | mg/kg-day | Liver, Kidney | 10 | NCEA | 12/1/1997 |
| | Subchronic | 3.00E-03 | $mg/m^3$ | 8.60E-04 | mg/kg-day | Liver, Kidney | 100 | NCEA | 12/1/1997 |

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Value Inhalation RfC | Units | Adjusted Inhalation RfD (1) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfC:RfD: (2) | Dates (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | Chronic | 9.00E-02 | $mg/m^3$ | 2.6E-02 | mg/kg-day | Brain | 100/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |
| 2-Chlorophenol | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Chromium (hexavalent) | Chronic | 1.05E-04 | $mg/m^3$ | 3.00E-05 | mg/kg-day | Respiratory System | 90/1 | IRIS | 10/10/2002 |
| | Subchronic | 4.00E-06 | $mg/m^3$ | 1.14E-06 | mg/kg-day | Respiratory System | 100 | NCEA | 5/14/1993 |
| Chrysene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Dibenzo(a,h)anthracene | Chronic | N/A | | | | | | | |
| 1,1-Dichloroethene | Chronic | 2.0E-01 | $mg/m^3$ | 5.7E-02 | mg/kg-day | Liver | 30/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |
| 1,2-Dibromo-3-chloropropane | Chronic | 2.0E-04 | $mg/m^3$ | 5.7E-05 | mg/kg-day | Testicles | 1000/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |
| 1,2-Dibromoethane | Chronic | 2.00E-04 | $mg/m^3$ | 5.7E-05 | mg/kg-day | Sperm | 1000 | HEAST | 07/1997 |
| | Subchronic | 2.00E-03 | $mg/m^3$ | 5.71E-04 | mg/kg-day | Sperm | 100 | HEAST | 07/1997 |
| 1,2-Dichloroethane | Chronic | 4.90E-03 | $mg/m^3$ | 1.40E-03 | mg/kg-day | Liver & Kidney | 10 | NCEA | 4/5/1993 |
| | Subchronic | N/A | | | | | | | |
| 1,2-Dichoropropane | Chronic | 4.00E-03 | $mg/m^3$ | 1.1E-03 | mg/kg-day | Nose | 300/1 | IRIS | 10/10/2002 |
| | Subchronic | 1.30E-02 | $mg/m^3$ | 3.7E-03 | mg/kg-day | Nose | 100 | HEAST | 07/1997 |
| 1,3-Dichlorobenzene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 1,4-Dichlorobenzene | Chronic | 8.00E-01 | $mg/m^3$ | 2.3E-01 | mg/kg-day | Liver | 100 | IRIS | 10/10/2002 |
| | Subchronic | 2.50E+00 | $mg/m^3$ | 7.1E-01 | mg/kg-day | Liver | 30 | HEAST | 07/1997 |
| 2,4-Dinitrophenol | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 2,4-Dinitrotoluene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 2,6-Dinitrotoluene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 3,3-Dichlorobenzidine | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 4,6-Dinitro-2-methylphenol | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| cis-1,3-Dichloropropene | Chronic | 2.00E-02 | $mg/m^3$ | 5.70E-03 | mg/kg-day | Nasal Mucosa | 30 | IRIS | 10/10/2002 |
| | Subchronic | 2.00E-02 | $mg/m^3$ | 5.70E-03 | mg/kg-day | Nasal Mucosa | 30 | HEAST | 07/1997 |
| Dibenzofuran | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Value Inhalation RfC | Units | Adjusted Inhalation RfD (1) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfC:RfD: (2) | Dates (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| trans-1,3-Dichloropropene | Chronic | 2.00E-02 | $mg/m^3$ | 5.7E-03 | mg/kg-day | Nasal Mucosa | 30/1 | IRIS | 10/10/2002 |
| | Subchronic | 2.00E-02 | $mg/m^3$ | 5.7E-03 | mg/kg-day | Nasal Mucosa | 30 | HEAST | 07/1997 |
| Fluoranthene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Fluorene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Hexachlorobenzene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Hexachlorobutadiene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Hexachloroethane | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Indeno(1,2,3-cd)pyrene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Mercury | Chronic | 3.01E-04 | $mg/m^3$ | 8.6E-05 | mg/kg-day | CNS | 30 | IRIS | 10/10/2002 |
| | Subchronic | 3.0E-04 | mg/m3 | 8.6E-05 | mg/kg-day | CNS | 30 | HEAST | 07/1997 |
| 2-Methylnaphthalene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 4-Methylphenol | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Naphthalene | Chronic | 3.00E-03 | $mg/m^3$ | 8.6E-04 | mg/kg-day | Respiratory System | 3000/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |
| 2-Nitroaniline | Chronic | 2.0E-04 | $mg/m^3$ | 5.7E-05 | mg/kg-day | Blood | 10000 | HEAST | 07/1997 |
| | Subchronic | 2.0E-03 | mg/m3 | 5.71E-04 | mg/kg-day | Blood | 10000 | HEAST | 07/1997 |
| 3-Nitroaniline | Chronic | 1.05E-03 | $mg/m^3$ | 3.0E-04 | mg/kg-day | Liver, Blood, CNS | | NCEA | |
| | Subchronic | N/A | | | | | | | |
| 4-Nitroaniline | Chronic | 3.50E-03 | $mg/m^3$ | 1.0E-03 | mg/kg-day | Liver, Blood, CNS | | NCEA | |
| | Subchronic | N/A | | | | | | | |
| Nitrobenzene | Chronic | 2.0E-03 | $mg/m^3$ | 5.7E-04 | mg/kg-day | Blood/Adrenal/Kidney/Liver | 10000 | HEAST (3) | 07/1997 |
| | Subchronic | 2.0E-02 | mg/m3 | 8.6E-05 | mg/kg-day | Blood/Adrenal/Kidney/Liver | 1000 | HEAST (3) | 7/1/1997 |
| n-Nitroso-di-n-propylamine | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| n-Nitrosodiphenylamine | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Pentachlorophenol | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Chronic/ Subchronic | Value Inhalation RfC | Units | Adjusted Inhalation RfD (1) | Units | Primary Target Organ | Combined Uncertainty/Modifying Factors | Sources of RfC:RfD: (2) | Dates (3) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|---|
| Phenanthrene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Pyrene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 1,1,2,2-Tetrachloroethane | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Tetrachloroethene | Chronic | 4.90E-01 | mg/m3 | 1.40E-01 | mg/kg-day | Liver/Whole Body | N/A | NCEA | 10/1999 |
| | Subchronic | N/A | | | | | | | |
| Trichloroethene | Chronic | 4E-02 | $mg/m^3$ | 1.0E-02 | mg/kg-day | CNS, Liver, Endocrine system | | NCEA | 08/2001 |
| | Subchronic | N/A | | | | | | | |
| 1,1,2-Trichloroethane | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| 2,4,6-Trinitrotoluene | Chronic | N/A | | | | | | | |
| | Subchronic | N/A | | | | | | | |
| Vinyl chloride (lifetime from birth) | Chronic | 1.00E-01 | $mg/m^3$ | 2.80E-02 | mg/kg-day | Liver | 30/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |
| Vinyl chloride (lifetime from adult) | Chronic | 1.00E-01 | $mg/m^3$ | 2.80E-02 | mg/kg-day | Liver | 30/1 | IRIS | 10/10/2002 |
| | Subchronic | N/A | | | | | | | |

N/A = Not Applicable

(1) Inhalation RfD calculated by multiplying RfC by 20 m3/day inhalation rate and dividing by 70 years adult lifetime.

(2) HEAST, Alternative Methods used as source of barium values.

Chromium and cadmium values were withdrawn from HEAST, but available in Region III RBC Table.

(3) For IRIS values, provide the date IRIS was searched.

For HEAST values, provide the date of HEAST.

For NCEA values, provide the date of the article provided by NCEA.

ATSDR = Agency for Toxic Substances and Disease Registry

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

HEAST(3) = Health Effects Assessment Summary Tables, Alternate Methods

HEAST(4)= Health Effects Assessment Summary Tables, Withdrawn

NCEA = National Center for Environmental Assessment

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

| Chemical of Potential Concern | Oral Cancer Slope Factor | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal Cancer Slope Factor | Units | EPA Carcinogen Group | Source | Date (2) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|
| Acenapthene | N/A | | | | | | |
| Acenaphthylene | N/A | | | | | | |
| Acetone | N/A | | | | | | |
| Acetophenone | N/A | | | | | | |
| Anthracene | N/A | | | | | | |
| Arsenic | 1.5E+00 | 95% | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | A | IRIS | 10/10/2002 |
| Atrazine | 2.2E-01 | NA | 2.2E-01 | $(mg/kg\text{-}day)^{-1}$ | C | HEAST | 7/1/1997 |
| Benzene | 5.5E-02 | NA | 5.5E-02 | $(mg/kg\text{-}day)^{-1}$ | A | IRIS | 10/10/2002 |
| Benzo(a)anthracene | 7.3E-01 | 58%-89% | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | NCEA | 7/1/1993 |
| Benzo(a)pyrene | 7.3E+00 | 58%-89% | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Benzo(b)fluoranthene | 7.3E-01 | 58%-89% | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | NCEA | 7/1/1993 |
| Benzo(g,h,I)perylene | N/A | | | | | | |
| Benzo(k)fluoranthene | 7.3E-02 | 58%-89% | 7.3E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | NCEA | 7/1/1993 |
| bis(2-Chloroethyl)ether | 1.1E+00 | NA | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| bis(2-Chloroethoxy)methane | N/A | | | | | | |
| bis(2-Ethylhexyl)phthalate | 1.4E-02 | NA | 1.4E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Bromodichloromethane | 6.2E-02 | NA | 6.2E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Bromoform | 7.9E-03 | NA | 7.9E-03 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Bromomethane | N/A | | | | | | |
| Carbon Tetrachloride | 1.3E-01 | NA | 1.3E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Chloroform | N/A | | | | | | |
| Chloromethane | 1.3E-02 | NA | 1.3E-02 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| 2-Chlorophenol | N/A | | | | | | |
| Chromium (hexavalent) | N/A | | | | D | IRIS | 10/10/2002 |
| Chrysene | 7.3E-03 | 58%-89% | 7.3E-03 | | | NCEA | |
| Dibenz(a,h)anthracene | 7.3E+00 | 58%-89% | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | B2 | NCEA | 7/1/1993 |
| 1,1-Dichloroethene | N/A | | | | | | |
| 1,2-Dibromo-3-chloropropane | 1.4E+00 | NA | 1.4E+00 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| 1,2-Dibromoethane | 8.5E-01 | NA | 8.5E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

| Chemical of Potential Concern | Oral Cancer Slope Factor | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal Cancer Slope Factor | Units | EPA Carcinogen Group | Source | Date (2) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 9.1E-02 | NA | 9.1E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| 1,2-Dichloropropane | 6.8E-02 | NA | 6.8E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | HEAST | 7/1997 |
| 1,3-Dichlorobenzene | N/A | | | | | | |
| 1,4-Dichlorobenzene | 2.4E-02 | NA | 2.4E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | HEAST | 7/1997 |
| 2,4-Dinitrophenol | N/A | | | | | | |
| 2,4-Dinitrotoluene | N/A | | | | | | |
| 2,6-Dinitrotoluene | N/A | | | | | | |
| 3,3-Dichlorobenzidine | 4.5E-01 | NA | 4.5E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| 4,6-Dinitro-2-methylphenol | N/A | | | | | | |
| cis-1,3-Dichloropropene | 1.0E-01 | NA | 1.0E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Dibenzofuran | N/A | | | | | | |
| Dibromochloromethane | 8.4E-02 | NA | 8.4E-02 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| trans-1,3-Dichloropropene | 1.0E-01 | NA | 1.0E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Fluoranthene | N/A | | | | | | |
| Fluorene | N/A | | | | | | |
| Hexachlorobenzene | 1.6E+00 | NA | 1.6E+00 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Hexachlorobutadiene | 7.8E-02 | NA | 7.8E-02 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| Hexachloroethane | 1.4E-02 | NA | 1.4E-02 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| Indeno(1,2,3-cd)pyrene | 7.3E-01 | 58%-89% | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | NCEA | 7/1/1993 |
| 2-Methylnaphthalene | N/A | | | | | | |
| 4-Methylphenol | N/A | | | | | | |
| Naphthalene | N/A | | | | | | |
| 2-Nitroaniline | N/A | | | | | | |
| 3-Nitroaniline | 2.0E-02 | NA | 2.0E-02 | $(mg/kg\text{-}day)^{-1}$ | | NCEA | |
| 4-Nitroaniline | 2.0E-02 | NA | 2.0E-02 | $(mg/kg\text{-}day)^{-1}$ | | NCEA | |
| Nitrobenzene | N/A | | | | | | |
| n-Nitroso-di-n-propylamine | 7.0E+00 | NA | 7.0E+00 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| n-Nitrosodiphenylamine | 4.9E-03 | NA | 4.9E-03 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Pentachlorophenol (diet) | 1.2E-01 | 76% | 1.6E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Cherry Point, Site 1

| Chemical of Potential Concern | Oral Cancer Slope Factor | Oral to Dermal Adjustment Factor (1) | Adjusted Dermal Cancer Slope Factor | Units | EPA Carcinogen Group | Source | Date (2) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|
| Pentachlorophenol (water) | 1.2E-01 | 100% | 1.2E-01 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Phenanthrene | N/A | | | | | | |
| Pyrene | N/A | | | | | | |
| 1,1,2,2-Tetrachloroethane | 2.0E-01 | NA | 2.0E-01 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| Tetrachloroethene | 5.2E-02 | NA | 5.2E-02 | $(mg/kg\text{-}day)^{-1}$ | | NCEA | |
| 1,1,2-Trichloroethane | 5.7E-02 | NA | 5.7E-02 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| 2,4,6-Trichlorophenol | 1.1E-02 | NA | 1.1E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Trichloroethene | 4.0E-01 | NA | 4.0E-01 | $(mg/kg\text{-}day)^{-1}$ | B1 | NCEA | 8/1/2001 |
| Vinyl chloride (lifetime from birth) | 1.4E+00 | NA | 1.4E+00 | (mg/kg-day) | A | IRIS | 10/10/2002 |
| Vinyl chloride (lifetime from adult) | 7.2E-01 | NA | 7.2E-01 | $(mg/kg\text{-}day)^{-1}$ | A | IRIS | 10/10/2002 |

N/A-Not available or not appropriate.

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

NCEA = National Center for Environmental Assessment

EPA Carcinogen Group:

A - Human carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as a human carcinogen

E - Evidence of noncarcinogenicity

(1) Source: Risk Assessment Guidance for Superfund, Volume 1: Human Health Evalution Manual (Part E, Supplemetnal Guidance for Dermal Risk Assessment( Interim). Section 4.2 and Exhibit 4-1, EPA 2001). Only perform adjustment if adjustment factor > 50%.

(2) For IRIS values, provide the date IRIS was searched.
For HEAST values, provide the date of HEAST.
For NCEA values, provide article date provided by NCEA.

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Unit Risk | Units | Adjustment (1) | Inhalation Cancer Slope Factor | Units | Weight of Evidence/ Cancer Guidance Description | Source | Date (2) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|
| Acenapthene | N/A | | | | | | | |
| Acenaphthlene | N/A | | | | | | | |
| Acetone | N/A | | | | | | | |
| Acetophenone | N/A | | | | | | | |
| Anthracene | N/A | | | | | | | |
| Arsenic | 4.0E-03 | (ug/m3) $^{-1}$ | 3500 | 1.5E+01 | (mg/kg-day) $^{-1}$ | A | IRIS | 10/10/2002 |
| Benzene | 8.3E-06 | (ug/m3) $^{-1}$ | 3500 | 2.9E-02 | (mg/kg-day) $^{-1}$ | A | IRIS | 10/10/2002 |
| Benzo(a)anthracene | N/A | | | | | | | |
| Benzo(a)pyrene | 8.9E-04 | (ug/m3) $^{-1}$ | 3500 | 3.1E+00 | (mg/kg-day) $^{-1}$ | B2 | NCEA | 1997 |
| Benzo(b)fluoranthene | N/A | | | | | | | |
| Benzo(g,h,I)perylene | N/A | | | | | | | |
| Benzo(k)fluoranthene | N/A | | | | | | | |
| bis(2-Chloroethyl)ether | 3.1E-04 | (ug/m3) $^{-1}$ | 3500 | 1.1E+00 | (mg/kg-day) $^{-1}$ | B2 | IRIS | 10/10/2002 |
| bis(2-Ethylhexyl)phthalate) | 4.0E-06 | (ug/m3) $^{-1}$ | 3500 | 1.4E-02 | (mg/kg-day) $^{-1}$ | B2 | NCEA | 1997 |
| Bromodichloromethane | N/A | | | | | | | |
| Bromoform | 1.1E-06 | (ug/m3) $^{-1}$ | 3500 | 3.9E-03 | (mg/kg-day) $^{-1}$ | B2 | IRIS | 10/10/2002 |
| Bromomethane | N/A | | | | | | | |
| Carbon tetrachloride | 1.5E-05 | (ug/m3) $^{-1}$ | 3500 | 5.3E-02 | (mg/kg-day) $^{-1}$ | B2 | IRIS | 10/10/2002 |
| Chloroform | 2.3E-05 | (ug/m3) $^{-1}$ | 3500 | 8.1E-02 | (mg/kg-day) $^{-1}$ | B2 | IRIS | 10/10/2002 |
| Chloromethane | 8.9E-04 | (ug/m3) $^{-1}$ | 3500 | 3.5E-03 | (mg/kg-day) $^{-1}$ | C | NCEA | |
| 2-Chlorophenol | N/A | | | | | | | |
| Chromium | 1.2E-02 | (ug/m3) $^{-1}$ | 3500 | 4.1E+01 | (mg/kg-day) $^{-1}$ | A | HEAST | 1997 |
| Chrysene | N/A | | | | | | | |
| Dibenz(a,h)anthracene | N/A | | | | | | | |
| 1,1-Dichloroethene | N/A | | | | | | | |
| 1,2-Dibromo-3-chloropropane | 6.9E-07 | (ug/m3) $^{-1}$ | 3500 | 2.4E-03 | (mg/kg-day) $^{-1}$ | B2 | HEAST | 1997 |
| 1,2-Dibromoethane | 2.2E-04 | (ug/m3) -1 | 3500 | 7.6E-01 | (mg/kg-day) -1 | B2 | IRIS | 10/10/2002 |
| 1,2-Dichloroethane | 2.6E-05 | (ug/m3) -1 | 3500 | 9.1E-02 | (mg/kg-day) -1 | B2 | IRIS | 10/10/2002 |
| 1,2-Dichloropropane | N/A | | | | | | | |
| 1,3-Dichlorobenzene | N/A | | | | | | | |

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Unit Risk | Units | Adjustment (1) | Inhalation Cancer Slope Factor | Units | Weight of Evidence/ Cancer Guidance Description | Source | Date (2) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | 6.3E-06 | (ug/m3) -1 | 3500 | 2.2E-02 | (mg/kg-day) -1 | | | |
| 2,4-Dinitrophenol | N/A | | | | | | | |
| 2,4-Dinitrotoluene | N/A | | | | | | | |
| 2,6-Dinitrotoluene | N/A | | | | | | | |
| 3,3-Dichlorobenzidine | N/A | | | | | | | |
| 4,6-Dinitro-2-methylphenol | N/A | | | | | | | |
| cis-1,3-Dichloropropene | 2.9E-06 | (ug/m3) -1 | 3500 | 1.0E-02 | (mg/kg-day) -1 | B2 | IRIS | 10/10/2002 |
| Dibenzofuran | N/A | | | | | | | |
| Dibromochloromethane | N/A | | | | | | | |
| trans-1,3-Dichloropropene | 2.9E-06 | (ug/m3) -1 | 3500 | 1.0E-02 | (mg/kg-day) -1 | B2 | IRIS | 10/10/2002 |
| Fluoranthene | N/A | | | | | | | |
| Fluorene | N/A | | | | | | | |
| Hexachlorobenzene | 4.6E-04 | (ug/m3) -1 | 3500 | 1.6E+00 | (mg/kg-day) -1 | B2 | IRIS | 10/10/2002 |
| Hexachlorobutadiene | 2.2E-05 | (ug/m3) -1 | 3500 | 7.8E-02 | (mg/kg-day) -1 | C | IRIS | 10/10/2002 |
| Hexachloroethane | 4.0E-06 | (ug/m3) -1 | 3500 | 1.4E-02 | (mg/kg-day) -1 | C | IRIS | 10/10/2002 |
| Indeno(1,2,3-cd)pyrene | N/A | | | | | | | |
| 2-Methylnaphthalene | N/A | | | | | | | |
| Naphthalene | N/A | | | | | | | |
| 2-Nitroaniline | N/A | | | | | | | |
| 3-Nitroaniline | N/A | | | | | | | |
| 4-Nitroaniline | N/A | | | | | | | |
| Nirtobenzene | N/A | | | | | | | |
| n-Nitroso-di-n-propylamine | N/A | | | | | | | |
| n-Nitrosodiphenylamine | N/A | | | | | | | |
| Pentachlorophenol | N/A | | | | | | | |
| Phenanthrene | N/A | | | | | | | |
| Pyrene | N/A | | | | | | | |
| 1,1,2, 2-Tetrachloroethane | 5.7E-05 | $(ug/m3)^{-1}$ | 3500 | 2.0E-01 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |
| Tetrachloroethene | 2.9E-06 | $(ug/m3)^{-1}$ | 3500 | 1.0E-02 | $(mg/kg\text{-}day)^{-1}$ | | NCEA | |
| 1,1,2-Trichloroethane | 1.6E-05 | $(ug/m3)^{-1}$ | 3500 | 5.6E-02 | $(mg/kg\text{-}day)^{-1}$ | C | IRIS | 10/10/2002 |

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Cherry Point, Site 1

| Chemical of Potential Concern | Unit Risk | Units | Adjustment (1) | Inhalation Cancer Slope Factor | Units | Weight of Evidence/ Cancer Guidance Description | Source | Date (2) (MM/DD/YY) |
|---|---|---|---|---|---|---|---|---|
| 2,4,6-Trichlorophenol | 2.9E-06 | $(ug/m3)^{-1}$ | 3500 | 1.0E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 10/10/2002 |
| Trichloroethene | 1.1E-04 | $(ug/m3)^{-1}$ | 3500 | 4.0E-01 | $(mg/kg\text{-}day)^{-1}$ | B1 | NCEA | 8/1/2001 |
| Vinyl chloride (lifetime from birth) | 8.6E-06 | $(ug/m3)^{-1}$ | 3500 | 3.0E-02 | $(mg/kg\text{-}day)^{-1}$ | A | IRIS | 10/10/2002 |
| Vinyl chloride (lifetime from adult) | 4.4E-06 | $(ug/m3)^{-1}$ | 3500 | 1.5E-02 | $(mg/kg\text{-}day)^{-1}$ | A | IRIS | 10/10/2002 |

IRIS = Integrated Risk Information System
HEAST= Health Effects Assessment Summary Tables
NCEA = National Center for Environmental Assessment

N/A = Not Available

(1) Adjustment Factor applied to Unit Risk to calculate Inhalation Slope Factor = 70 kg x 1/20 m3/day x 1000 ug/mg

(2) For IRIS values, provide the date IRIS was searched.
For HEAST values, provide the date of HEAST.
For NCEA values, provide the date of the article provided by NCEA.

EPA Group:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

TABLE 7.1.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentratio Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 4.8E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.6E-02 |
| | (Total) | | | | | | | | | | | | 1.6E-02 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.4E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.1E-03 |
| | (Total) | | | | | | | | | | | | 8.1E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.4E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.2.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.3E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.5E-03 |
| | (Total) | | | | | | | | | | | | 4.5E-03 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 6.8E-04 |
| | (Total) | | | | | | | | | | | | 6.8E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5.2E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.3.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.9E-04 |
| | | | | | | | | | | | | | 3.9E-04 |
| Dermal | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.0E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | | | | | | | | | | | | | 2.3E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 6.3E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.3A.RME Supplement
Calculation of Daevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 2.0E-08 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.4.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.9E-04 |
| | (Total) | | | | | | | | | | | | 5.9E-04 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.8E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.3E-04 |
| | (Total) | | | | | | | | | | | | 3.3E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 9.2E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

Table 7.4A.RME Supplement
Calculation of Daevent
Trespasser/Visitor, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.5.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 5.8E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.9E-03 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.9E-03 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 3.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 9.9E-04 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 4.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.9E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.9E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.6.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 9.0E-03 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 9.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.0E-03 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 4.9E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 7.1E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.6E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.1E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.7.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 2.6E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.6E-01 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | (Total) | | | | | | | | | | | | 8.6E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.6E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.8.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 6.0E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.0E+00 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 6.4E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 6.4E-03 |
| | (Total) | | | | | | | | | | | | 2.0E+00 |
| Dermal | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 2.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 6.6E-03 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 5.8E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.8E-04 |
| | (Total) | | | | | | | | | | | | 7.2E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.0E+00 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

Table 7.8A.RME Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 3.1E-09 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 9.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.9.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water in Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 7.1E-07 | mg/kg-day | 2.9E-04 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 5.7E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.7E-05 |
| | (Total) | | | | | | | | | | | | 2.5E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.5E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

Table 7.9A.RME Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau$) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent mg/cm$^2$-event | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 7.5E-08 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 8 | 6.1E-08 | 3 |

2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =

FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:

Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)

N/A - not available or not applicable.

TABLE 7.10.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 8.6E-05 | mg/kg-day | 3.0E-04 | $mg/m^3$ | 3.2E-01 |
| | (Total) | | | | | | | | | | | | 3.2E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.2E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic inhalation.

TABLE 7.11.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 1.0E+00 | µg/L | 1.9E-07 | $mg/m^3$ | R | 4.1E-06 | mg/kg-day | 8.6E-04 | mg/kg-day | 3.0E-03 | $mg/m^3$ | 4.8E-03 |
| | (Total) | | | | | | | | | | | | 4.8E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.8E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

**Table 7.11.RME Supplement**
**Inhalation of Volatiles from Groundwater During Construction**
**Inhalation Exposure Concentrations Calculated Using a Two-Film Volatilization Model**
**Future Construction Worker Senario**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Cw | MW | $K_H$ | $k_l$ | $k_g$ | $K_v$ | ER | ERa | Ca |
|---|---|---|---|---|---|---|---|---|---|
| | (µg/L) | (mol/gram) | (unitless) | (cm/hr) | (cm/hr) | (cm/hr) | (mg/hr) | (g/sec-m$^2$) | (µg/m$^3$) |
| Chloroform | 1.0E+00 | 119 | 1.50E-01 | 4.56E-02 | 1.92E+03 | 4.56E-02 | 4.56E-08 | 1.27E-10 | 1.94E-04 |

**Equations**

| | |
|---|---|
| Equation 1 | $Kv = 1/(1/k_l + 1/K_H{*}K_g)$ |
| Equation 2 | $k_g = 700(18/MW)^{1/4}V$ |
| Equation 3 | $k_l = (32/MW)^{1/4}Ka'$ |
| Equation 4 | ER = Kv * Cw * L/1000 cm$^3$ * mg/1000 µg |
| Equation 5 | ERa = ER * g/1000 mg * 10000cm$^2$/m$^2$ * hr/60 min * min/60 sec |

| Variables | Units | Exposure Assumptions |
|---|---|---|
| Cw = groundwater concentration | (mg/L) | chem-specific |
| MW = molecular weight | (mol/gram) | chem-specific |
| $K_H$ - Henry's Law Constant | (unitless) | chem-specific |
| Kv = volatilization rate | (cm/hr) | Solved by Eq 1 |
| $k_g$ = gas phase transfer coefficient | (cm/hr) | Solved by Eq 2 |
| $k_l$ = liquid phase transfer coefficient | (cm/hr) | Solved by Eq 3 |
| V = wind speed | (m/s) | 4.4 |
| Ka' = aeration rate | (cm/hr) | 0.0633 |
| ER = emission rate | (mg/hr) | Solved by Eq 4 |
| A = area of excavation (utility ditch) Length = 18 m, width = 2 m | (m$^2$) | 36 |
| Era = area emission rate | (g/sec-m$^2$) | Solved by Eq 5 |
| Ca = air concentration | (mg/m$^3$) | Solved using SCREEN3 mode |

Note: aeration rate based on aeration rate for small pond (0.1/day) multiplied by depth of water in excavation (1/2 ft)

TABLE 7.12.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 6.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.2E-02<br>2.2E-02 |
| Dermal | Arsenic (Total) | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.9E-03<br>8.9E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.1E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.13.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentratio Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 6.3E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.1E-01 |
| | | | | | | | | | | | | | 2.1E-01 |
| Dermal | Arsenic (Total) | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 3.5E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | | | | | | | | | | | | | 1.2E-02 |
| Total Hazard Index Across All Exposure Routes/Pathways | | | | | | | | | | | | | 2.2E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.14.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 9.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.0E-02 |
| | | | | | | | | | | | | | 3.0E-02 |
| Dermal | Arsenic (Total) | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 3.6E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | | | | | | | | | | | | | 1.2E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.2E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

TABLE 7.15.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 8.4E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.8E-01 |
| | | | | | | | | | | | | | 2.8E-01 |
| Dermal | Arsenic (Total) | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 4.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.6E-02 |
| | | | | | | | | | | | | | 1.6E-02 |
| Total Hazard Index Across All Exposure Routes/Pathways | | | | | | | | | | | | | 3.0E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

TABLE 7.16.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 5.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.7E-02 |
| | | | | | | | | | | | | | 1.7E-02 |
| Dermal | Arsenic (Total) | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | | | | | | | | | | | | | 1.3E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.8E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

TABLE 7.17.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-04 |
| | | | | | | | | | | | | | 3.8E-04 |
| Dermal | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.9E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | | | | | | | | | | | | | 2.3E-04 |
| Total Hazard Index Across All Exposure Routes/Pathways | | | | | | | | | | | | | 6.1E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.17A.RME Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.18.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-03<br>1.8E-03 |
| Dermal | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.2E-04<br>4.2E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.2E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.18A.RME Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.19.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.8E-03 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 5.8E-08 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.8E-03 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.3E-03 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 3.3E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 9.2E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available. If subchronic value not available, chronic value used.

TABLE 7.20.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.6E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.4E-02 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 5.4E-07 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.4E-02 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.1E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.0E-01 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 3.0E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 7.0E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 7.5E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available. If subchronic value not available, chronic value used.

TABLE 7.21.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.1E-01 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 7.2E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 7.2E-04 |
| | (Total) | | | | | | | | | | | | 1.1E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.1E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.22.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.6E-01 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 2.4E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | (Total) | | | | | | | | | | | | 3.6E-01 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.8E-04 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 1.6E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.6E-04 |
| | (Total) | | | | | | | | | | | | 1.0E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.6E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

Table 7.22A.CT Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 8.3E-10 | 1 |
| Chloroform | 5.6E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 5.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3x$B^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.23.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 7.2E-06 | mg/kg-day | 8.6E-05 | mg/kg-day | 3.0E-04 | $mg/m^3$ | 8.4E-02 |
| | (Total) | | | | | | | | | | | | 8.4E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.4E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic inhalation.

TABLE 8.1.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.7E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | (Total) | | | | | | | | | | 2.6E-06 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 8.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | (Total) | | | | | | | | | | 1.3E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.9E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.2.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.9E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | (Total) | | | | | | | | | | 2.9E-07 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.9E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | (Total) | | | | | | | | | | 4.4E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.3E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.3.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 6.3E-08 |
| | | | | | | | | | | | 6.3E-08 |
| Dermal | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.8E-08 |
| | | | | | | | | | | | 3.8E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.0E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.3A.RME Supplement
Calculation of Daevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 2.0E-08 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.4.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.8E-08 |
| | (Total) | | | | | | | | | | 3.8E-08 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.1E-08 |
| | (Total) | | | | | | | | | | 2.1E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.9E-08 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.4A.RME Supplement
Calculation of Daevent
Trespasser/Visitor, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

TABLE 8.5.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 6.9E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | (Total) | | | | | | | | | | 3.6E-07 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | | | | | | | | | | | 2.7E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.3E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.6.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | (Total) | | | | | | | | | | 6.8E-07 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 7.0E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-08 |
| | | | | | | | | | | | 1.8E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.6E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.7.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 8.8E-05 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.3E-04 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | 1.3E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.3E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.8.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 5.2E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 7.7E-05 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 5.5E-06 | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | 7.7E-05 |
| Dermal | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 1.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 5.0E-07 | mg/kg-day | N/A | | |
| | (Total) | | | | | | | | | | 2.5E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.8E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

One-hit equation used for calculating risks for benzo(a)pyrene and dibenz(a,h)anthracene.

Table 8.8A.RME Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 3.1E-09 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 9.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.9.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 1.4E-04 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.1E-04 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 1.5E-05 | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | 2.1E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.1E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.10.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 2.7E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 8.2E-09 | mg/kg-day | N/A | | |
| | | | | | | | | | | | 4.0E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.0E-09 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.10.RME Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (mg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (t) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm2-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 2.0E-08 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 8 | 6.1E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm3 (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x tevent x tevent)/p)) x 0.001 mg/ug x 0.001 l/cm3 (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x tevent x ((1 + 3xB + 3xB2)/(1+B)2) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.11.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 8.1E-02 | (mg/kg-day) $^{-1}$ | 7.6E-07 |
| | (Total) | | | | | | | | | | 7.6E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.6E-07 |

TABLE 8.12.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 1.0E+00 | µg/L | 1.9E-04 | $mg/m^3$ | R | 5.9E-08 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.8E-09 |
| | (Total) | | | | | | | | | | 4.8E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.8E-09 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.12.RME Supplement**
**Inhalation of Volatiles from Groundwater During Construction**
**Inhalation Exposure Concentrations Calculated Using a Two-Film Volatilization Model**
**Future Construction Worker Senario**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Cw (μg/L) | MW (mol/gram) | $K_H$ (unitless) | $k_l$ (cm/hr) | $k_g$ (cm/hr) | $K_v$ (cm/hr) | ER (mg/hr) | ERa (g/sec-m$^2$) | Ca (μg/m$^3$) |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.0E+00 | 119 | 1.50E-01 | 4.56E-02 | 1.92E+03 | 4.56E-02 | 4.56E-08 | 1.27E-10 | 1.94E-04 |

**Equations**

| | |
|---|---|
| Equation 1 | $Kv = 1/(1/k_l + 1/K_H{*}K_g)$ |
| Equation 2 | $k_g = 700(18/MW)^{1/4}V$ |
| Equation 3 | $k_l = (32/MW)^{1/4}Ka'$ |
| Equation 4 | ER = Kv * Cw * L/1000 cm$^3$ * mg/1000 μg |
| Equation 5 | ERa = ER * g/1000 mg * 10000cm$^2$/m$^2$ * hr/60 min * min/60 sec |

| Variables | Units | Exposure Assumptions |
|---|---|---|
| Cw = groundwater concentration | (mg/L) | chem-specific |
| MW = molecular weight | (mol/gram) | chem-specific |
| $K_H$ - Henry's Law Constant | (unitless) | chem-specific |
| Kv = volatilization rate | (cm/hr) | Solved by Eq 1 |
| $k_g$ = gas phase transfer coefficient | (cm/hr) | Solved by Eq 2 |
| $k_l$ = liquid phase transfer coefficient | (cm/hr) | Solved by Eq 3 |
| V = wind speed | (m/s) | 4.4 |
| Ka' = aeration rate | (cm/hr) | 0.0633 |
| ER = emission rate | (mg/hr) | Solved by Eq 4 |
| A = area of excavation (utility ditch) Length = 18 m, width = 2 m | (m$^2$) | 36 |
| Era = area emission rate | (g/sec-m$^2$) | Solved by Eq 5 |
| Ca = air concentration | (mg/m$^3$) | Solved using SCREEN3 mode |

Note: aeration rate based on aeration rate for small pond (0.1/day) multiplied by depth of water in excavation (1/2 ft)

TABLE 8.13.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.3E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.5E-06 |
| | | | | | | | | | | | 3.5E-06 |
| Dermal | Arsenic (Total) | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 9.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | | | | | | | | | | | 1.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.8E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.14.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 5.4E-06 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 8.1E-06 |
| | (Total) | | | | | | | | | | 8.1E-06 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 3.0E-07 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 4.5E-07 |
| | (Total) | | | | | | | | | | 4.5E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.5E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.15.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 7.7E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | (Total) | | | | | | | | | | 1.2E-05 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | (Total) | | | | | | | | | | 1.8E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.3E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.16.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 3.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.6E-06 |
| | (Total) | | | | | | | | | | 4.6E-06 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | (Total) | | | | | | | | | | 1.8E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.5E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.17.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 7.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | (Total) | | | | | | | | | | 1.1E-05 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 4.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.1E-07 |
| | (Total) | | | | | | | | | | 6.1E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.1E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.18.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | (Total) | | | | | | | | | | 1.5E-05 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 1.6E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | (Total) | | | | | | | | | | 2.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.8E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.19.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 7.1E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | (Total) | | | | | | | | | | 1.1E-07 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 5.6E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.4E-09 |
| | (Total) | | | | | | | | | | 8.4E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.1E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.20.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.9E-08 |
| | (Total) | | | | | | | | | | 5.9E-08 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.5E-08 |
| | (Total) | | | | | | | | | | 3.5E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.4E-08 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.20A.RME Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.21.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 6.9E-08 |
| | | | | | | | | | | | 6.9E-08 |
| Dermal | Arsenic (Total) | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-08 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.6E-08 |
| | | | | | | | | | | | 1.6E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.5E-08 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.21A.RME Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.22.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | (Total) | | | | | | | | | | 1.3E-07 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | (Total) | | | | | | | | | | 5.2E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.8E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.22A.RME Supplement
Calculation of Daevent
Resident, Child/Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.23.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 9.0E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | (Total) | | | | | | | | | | 1.0E-06 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 3.4E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.6E-07 |
| | | | | | | | | | | | 8.8E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.9E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.24.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-06 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 4.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | (Total) | | | | | | | | | | 2.4E-06 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.8E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.7E-05 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-05 |
| | | | | | | | | | | | 4.6E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.8E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.25.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.0E-06 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.0E-06 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 4.8E-07 |
| | (Total) | | | | | | | | | | 3.5E-06 |
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.8E-05 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.7E-05 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.9E-05 |
| | | | | | | | | | | | 4.7E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.0E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.26.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.2E-06 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 9.3E-07 | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | 6.2E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.2E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.27.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-05 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 2.1E-06 | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | 1.4E-05 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | | |
| | (Total) | | | | | | | | | | 3.4E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.27A.CT Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 8.3E-10 | 1 |
| Chloroform | 5.6E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 5.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3x$B^2$)/$(1+B)^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.28.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.0E-05 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 3.0E-06 | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | 2.0E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.0E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.29.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 9.4E-07 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.4E-06 |
| | (Total) | | | | | | | | | | 1.4E-06 |
| Dermal | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.7E-07 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.5E-07 |
| | (Total) | | | | | | | | | | 5.5E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.0E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.30.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | (Total) | | | | | | | | | | 1.6E-06 |
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | (Total) | | | | | | | | | | 1.5E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.7E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.31.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | (Total) | | | | | | | | | | 1.8E-06 |
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | (Total) | | | | | | | | | | 3.3E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.2E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.32.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.0E-07 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.8E-07 |
| | (Total) | | | | | | | | | | 3.8E-07 |
| Dermal | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.9E-06 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.8E-06 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 1.6E-06 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.1E-05 |
| | | | | | | | | | | | 1.4E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.5E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.33.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.3E-07 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 2.9E-08 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-2}$ | 2.1E-07 |
| | (Total) | | | | | | | | | | 4.4E-07 |
| Dermal | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.9E-06 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-06 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 1.6E-06 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-2}$ | 1.2E-05 |
| | | | | | | | | | | | 1.4E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.5E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 9.1.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 2.6E-06 | N/A | 1.3E-06 | 3.9E-06 | Arsenic | Skin/vascular | 1.6E-02 | N/A | 8.1E-03 | 2.4E-02 |
| | | | (Total) | 2.6E-06 | N/A | 1.3E-06 | 3.9E-06 | (Total) | | 1.6E-02 | N/A | 8.1E-03 | 2.4E-02 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 6.3E-08 | N/A | 3.8E-08 | 1.0E-07 | Arsenic | Skin/vascular | 3.9E-04 | N/A | 2.3E-04 | 6.3E-04 |
| | | | (Total) | 6.3E-08 | N/A | 3.8E-08 | 1.0E-07 | (Total) | | 3.9E-04 | N/A | 2.3E-04 | 6.3E-04 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.1E-07 | N/A | 1.6E-07 | 4.7E-07 | Arsenic | Skin/vascular | 1.9E-03 | N/A | 9.9E-04 | 2.9E-03 |
| | | | Dibenz(a,h)anthracene | 5.1E-08 | N/A | 1.1E-07 | 1.6E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | |
| | | | (Total) | 3.6E-07 | N/A | 2.7E-07 | 6.3E-07 | (Total) | | 1.9E-03 | N/A | 9.9E-04 | 2.9E-03 |

| | |
|---|---|
| Total Risk Across Soil | 3.9E-06 |
| Total Risk Across Surface Water | 1.0E-07 |
| Total Risk Across Sediment | 6.3E-07 |
| Total Risk Across All Media and All Exposure Routes | 4.6E-06 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 2.8E-02 |
| Total Skin HI = | 2.8E-02 |
| Total Vascular HI = | 2.8E-02 |

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TABLE 9.2.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 2.9E-07 | N/A | 4.4E-08 | 3.3E-07 | Arsenic | Skin/vascular | 4.5E-03 | N/A | 6.8E-04 | 5.2E-03 |
| | | | (Total) | 2.9E-07 | N/A | 4.4E-08 | 3.3E-07 | (Total) | | 4.5E-03 | N/A | 6.8E-04 | 5.2E-03 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 3.8E-08 | N/A | 2.1E-08 | 5.9E-08 | Arsenic | Skin/vascular | 5.9E-04 | N/A | 3.3E-04 | 9.2E-04 |
| | | | (Total) | 3.8E-08 | N/A | 2.1E-08 | 5.9E-08 | (Total) | | 5.9E-04 | N/A | 3.3E-04 | 9.2E-04 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 5.8E-07 | N/A | 1.1E-07 | 6.9E-07 | Arsenic | Skin/vascular | 9.0E-03 | N/A | 1.6E-03 | 1.1E-02 |
| | | | Dibenz(a,h)anthracene | 9.4E-08 | N/A | 7.4E-08 | 1.7E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | |
| | | | (Total) | 6.8E-07 | N/A | 1.8E-07 | 8.6E-07 | (Total) | | 9.0E-03 | N/A | 1.6E-03 | 1.1E-02 |

| | |
|---|---|
| Total Risk Across Soil | 3.3E-07 |
| Total Risk Across Surface Water | 5.9E-08 |
| Total Risk Across Sediment | 8.6E-07 |
| Total Risk Across All Media and All Exposure Routes | 1.2E-06 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 1.7E-02 |
| Total Skin HI = | 1.7E-02 |
| Total Vascular HI = | 1.7E-02 |

TABLE 9.3.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.3E-04 | N/A | N/A | 1.3E-04 | Arsenic | Skin/vascular | 8.6E-01 | N/A | N/A | 8.6E-01 |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | Chloroform | Liver | 2.7E-03 | N/A | N/A | 2.7E-03 |
| | | | (Total) | 1.3E-04 | N/A | N/A | 1.3E-04 | (Total) | (Total) | 8.6E-01 | N/A | N/A | 8.6E-01 |
| Groundwater | Air | Shower | Chloroform | N/A | 7.6E-07 | N/A | 7.6E-07 | Chloroform | Liver,Kidney | N/A | 3.2E-01 | N/A | 3.2E-01 |
| | | | (Total) | N/A | 7.6E-07 | N/A | 7.6E-07 | (Total) | | N/A | 3.2E-01 | N/A | 3.2E-01 |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 3.5E-06 | N/A | 1.4E-06 | 4.8E-06 | Arsenic | Skin/vascular | 2.2E-02 | N/A | 8.9E-03 | 3.1E-02 |
| | | | (Total) | 3.5E-06 | N/A | 1.4E-06 | 4.8E-06 | (Total) | | 2.2E-02 | N/A | 8.9E-03 | 3.1E-02 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 4.6E-06 | N/A | 1.8E-06 | 6.5E-06 | Arsenic | Skin/vascular | 3.0E-02 | N/A | 1.2E-02 | 4.2E-02 |
| | | | (Total) | 4.6E-06 | N/A | 1.8E-06 | 6.5E-06 | (Total) | | 3.0E-02 | N/A | 1.2E-02 | 4.2E-02 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 5.9E-08 | N/A | 3.5E-08 | 9.4E-08 | Arsenic | Skin/vascular | 3.8E-04 | N/A | 2.3E-04 | 6.1E-04 |
| | | | (Total) | 5.9E-08 | N/A | 3.5E-08 | 9.4E-08 | (Total) | | 3.8E-04 | N/A | 2.3E-04 | 6.1E-04 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 9.0E-07 | N/A | 5.2E-07 | 1.4E-06 | Arsenic | Skin/vascular | 5.8E-03 | N/A | 3.3E-03 | 9.2E-03 |
| | | | Dibenz(a,h)anthracene | 1.5E-07 | N/A | 3.6E-07 | 5.1E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | |
| | | | (Total) | 1.0E-06 | N/A | 8.8E-07 | 1.9E-06 | (Total) | | 5.8E-03 | N/A | 3.3E-03 | 9.2E-03 |

| | |
|---|---|
| Total Risk Across Groundwater | 1.3E-04 |
| Total Risk Across Surface Soil | 4.8E-06 |
| Total Risk Across Subsurface Soil | 6.5E-06 |
| Total Risk Across Surface Water | 9.4E-08 |
| Total Risk Across Sediment | 1.9E-06 |
| Total Risk Across All Media and All Exposure Routes | 1.5E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 1.3E+00 |
| Total Skin HI = | 9.4E-01 |
| Total Vascular HI = | 9.4E-01 |
| Total Liver HI = | 3.2E-01 |

TABLE 9.4.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 7.7E-05 | N/A | 2.5E-07 | 7.8E-05 | Arsenic | Skin/vascular | 2.0E+00 | N/A | 6.6E-03 | 2.0E+00 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 6.4E-03 | N/A | 5.8E-04 | 7.0E-03 |
| | | | (Total) | 7.7E-05 | N/A | 2.5E-07 | 7.8E-05 | (Total) | | 2.0E+00 | N/A | 7.2E-03 | 2.0E+00 |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 8.1E-06 | N/A | 4.5E-07 | 8.5E-06 | Arsenic | Skin/vascular | 2.1E-01 | N/A | 1.2E-02 | 2.2E-01 |
| | | | (Total) | 8.1E-06 | N/A | 4.5E-07 | 8.5E-06 | (Total) | | 2.1E-01 | N/A | 1.2E-02 | 2.2E-01 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.1E-05 | N/A | 6.1E-07 | 1.1E-05 | Arsenic | Skin/vascular | 2.8E-01 | N/A | 1.6E-02 | 3.0E-01 |
| | | | (Total) | 1.1E-05 | N/A | 6.1E-07 | 1.1E-05 | (Total) | | 2.8E-01 | N/A | 1.6E-02 | 3.0E-01 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 6.9E-08 | N/A | 1.6E-08 | 8.5E-08 | Arsenic | Skin/vascular | 1.8E-03 | N/A | 4.2E-04 | 2.2E-03 |
| | | | (Total) | 6.9E-08 | N/A | 1.6E-08 | 8.5E-08 | (Total) | | 1.8E-03 | N/A | 4.2E-04 | 2.2E-03 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.1E-06 | N/A | 2.7E-05 | 2.9E-05 | Arsenic | Skin/vascular | 5.4E-02 | N/A | 7.0E-01 | 7.5E-01 |
| | | | Dibenz(a,h)anthracene | 3.4E-07 | N/A | 1.9E-05 | 1.9E-05 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | |
| | | | (Total) | 2.4E-06 | N/A | 4.6E-05 | 4.8E-05 | (Total) | | 5.4E-02 | N/A | 7.0E-01 | 7.5E-01 |

| | |
|---|---|
| Total Risk Across Groundwater | 7.8E-05 |
| Total Risk Across Surface Soil | 8.5E-06 |
| Total Risk Across Subsurface Soil | 1.1E-05 |
| Total Risk Across Surface Water | 8.5E-08 |
| Total Risk Across Sediment | 4.8E-05 |
| Total Risk Across All Media and All Exposure Routes | 1.5E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.3E+00 |
| Total Skin HI = | 3.3E+00 |
| Total Vascular HI = | 3.3E+00 |
| Total Liver HI = | 7.0E-03 |

TABLE 9.5.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | Arsenic | N/A | N/A | 4.0E-09 | 4.0E-09 | Arsenic | Skin/vascular | N/A | N/A | 2.4E-03 | 2.4E-03 |
| | | | Chloroform | N/A | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | N/A | N/A | 5.7E-05 | 5.7E-05 |
| | | | (Total) | N/A | N/A | 4.0E-09 | 4.0E-09 | (Total) | | N/A | N/A | 2.5E-03 | 2.5E-03 |
| Groundwater | Air | Excavation Pit | Chloroform | N/A | 4.8E-09 | N/A | 4.8E-09 | Chloroform | Liver, Kidney | N/A | 4.8E-03 | N/A | 4.8E-03 |
| | | | (Total) | N/A | 4.8E-09 | N/A | 4.8E-09 | (Total) | | N/A | 4.8E-03 | N/A | 4.8E-03 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.1E-07 | N/A | 8.4E-09 | 1.1E-07 | Arsenic | Skin/vascular | 1.7E-02 | N/A | 1.3E-03 | 1.8E-02 |
| | | | (Total) | 1.1E-07 | N/A | 8.4E-09 | 1.1E-07 | (Total) | | 1.7E-02 | N/A | 1.3E-03 | 1.8E-02 |

| | |
|---|---|
| Total Risk Across Groundwater | 8.8E-09 |
| Total Risk Across Subsurface Soil | 1.1E-07 |
| Total Risk Across All Media and All Exposure Routes | 1.2E-07 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 2.5E-02 |
| Total Skin HI = | 2.0E-02 |
| Total Vascular HI = | 2.0E-02 |
| Total Liver HI = | 4.9E-03 |
| Total Kidney HI = | 4.8E-03 |

TABLE 9.6.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.1E-04 | N/A | N/A | 2.1E-04 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | (Total) | 2.1E-04 | N/A | 0.0E+00 | 2.1E-04 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.2E-05 | N/A | 1.8E-06 | 1.3E-05 | | | | | | |
| | | | (Total) | 1.2E-05 | N/A | 1.8E-06 | 1.3E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.5E-05 | N/A | 2.4E-06 | 1.8E-05 | | | | | | |
| | | | (Total) | 1.5E-05 | N/A | 2.4E-06 | 1.8E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.3E-07 | N/A | 5.2E-08 | 1.8E-07 | | | | | | |
| | | | (Total) | 1.3E-07 | 0.0E+00 | 5.2E-08 | 1.8E-07 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.0E-06 | N/A | 2.7E-05 | 3.0E-05 | | | | | | |
| | | | Dibenz(a,h)anthracene | 4.8E-07 | N/A | 1.9E-05 | 2.0E-05 | | | | | | |
| | | | (Total) | 3.5E-06 | 0.0E+00 | 4.7E-05 | 5.0E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 2.1E-04 |
| Total Risk Across Surface Soil | 1.3E-05 |
| Total Risk Across Subsurface Soil | 1.8E-05 |
| Total Risk Across Surface Water | 1.8E-07 |
| Total Risk Across Sediment | 5.0E-05 |
| Total Risk Across All Media and All Exposure Routes | 2.9E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | N/A |

TABLE 9.7.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 6.2E-06 | N/A | N/A | 6.2E-06 | Arsenic | Skin/vascular | 1.1E-01 | | | 1.1E-01 |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | Chloroform | Liver | 7.2E-04 | | | 7.2E-04 |
| | | | (Total) | 6.2E-06 | N/A | N/A | 6.2E-06 | (Total) | | 1.1E-01 | N/A | N/A | 1.1E-01 |
| | | | | | | Total Risk Across Groundwater | 6.2E-06 | | | | | Total Hazard Index Across All Media and All Exposure Routes | 1.1E-01 |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 6.2E-06 | | | | | | |

| | |
|---|---|
| Total Skin HI = | 1.1E-01 |
| Total Vascular HI = | 1.1E-01 |
| Total Liver HI = | 7.2E-04 |

TABLE 9.8.CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.4E-05 | N/A | 3.4E-08 | 1.4E-05 | Arsenic | Skin/vascular | 3.6E-01 | | 8.8E-04 | 3.6E-01 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.4E-03 | | 1.6E-04 | 2.6E-03 |
| | | | (Total) | 1.4E-05 | N/A | 3.4E-08 | 1.4E-05 | (Total) | | 3.6E-01 | N/A | 1.0E-03 | 3.6E-01 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.6E-06 | N/A | 1.5E-07 | 1.7E-06 | | | | | | |
| | | | (Total) | 1.6E-06 | N/A | 1.5E-07 | 1.7E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed | Arsenic | 2.0E-07 | N/A | 2.8E-06 | 3.0E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.8E-07 | N/A | 1.1E-05 | 1.2E-05 | | | | | | |
| | | | (Total) | 3.8E-07 | N/A | 1.4E-05 | 1.5E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 1.4E-05 |
| Total Risk Across Subsurface Soil | 1.7E-06 |
| Total Risk Across Sediment | 1.5E-05 |
| Total Risk Across All Media and All Exposure Routes | 3.0E-05 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.6E-01 |
| Total Skin HI = | 3.6E-02 |
| Total Vascular HI = | 2.6E-03 |

TABLE 9.9.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.0E-05 | N/A | N/A | 2.0E-05 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | (Total) | 2.0E-05 | N/A | 0.0E+00 | 2.0E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.4E-06 | N/A | 5.5E-07 | 2.0E-06 | | | | | | |
| | | | (Total) | 1.4E-06 | N/A | 5.5E-07 | 2.0E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.8E-06 | N/A | 3.3E-07 | 2.2E-06 | | | | | | |
| | | | (Total) | 1.8E-06 | N/A | 3.3E-07 | 2.2E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.3E-07 | N/A | 2.9E-06 | 3.1E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.1E-07 | N/A | 1.2E-05 | 1.2E-05 | | | | | | |
| | | | (Total) | 4.4E-07 | 0.0E+00 | 1.4E-05 | 1.5E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 2.0E-05 |
| Total Risk Across Surface Soil | 2.0E-06 |
| Total Risk Across Subsurface Soil | 2.2E-06 |
| Total Risk Across Sediment | 1.5E-05 |
| Total Risk Across All Media and All Exposure Routes | 3.9E-05 |
| Total Hazard Index Across All Media and All Exposure Routes | N/A |

TABLE 10.1.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 2.6E-06 | N/A | 1.3E-06 | 3.9E-06 | | | | | | |
| | | | (Total) | 2.6E-06 | N/A | 1.3E-06 | 3.9E-06 | (Total) | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | Total Risk Across Soil | 3.9E-06 | | | | | Total Hazard Index Across All Media and All Exposure Routes | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 3.9E-06 | | | | | | |

TABLE 10.2 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.3E-04 | N/A | N/A | 1.3E-04 | Arsenic | Skin/vascular | 8.6E-01 | N/A | N/A | 8.6E-01 |
| | | | (Total) | 1.3E-04 | N/A | N/A | 1.3E-04 | (Total) | (Total) | 8.6E-01 | N/A | N/A | 8.6E-01 |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 3.5E-06 | N/A | 1.4E-06 | 4.8E-06 | | | | | | |
| | | | (Total) | 3.5E-06 | N/A | 1.4E-06 | 4.8E-06 | (Total) | | | | | |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 4.6E-06 | N/A | 1.8E-06 | 6.5E-06 | | | | | | |
| | | | (Total) | 4.6E-06 | N/A | 1.8E-06 | 6.5E-06 | (Total) | | | | | |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 9.0E-07 | N/A | 5.2E-07 | 1.4E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.5E-07 | N/A | 3.6E-07 | 5.1E-07 | | | | | | |
| | | | (Total) | 1.0E-06 | N/A | 8.8E-07 | 1.9E-06 | (Total) | | | | | |

| | |
|---|---|
| Total Risk Across Groundwater | 1.3E-04 |
| Total Risk Across Surface Soil | 4.8E-06 |
| Total Risk Across Subsurface Soil | 6.5E-06 |
| Total Risk Across Sediment | 1.9E-06 |
| Total Risk Across All Media and All Exposure Routes | 1.5E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 8.6E-01 |
| Total Skin HI = | 8.6E-01 |
| Total Vascular HI = | 8.6E-01 |

TABLE 10.3.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 7.7E-05 | N/A | 2.5E-07 | 7.8E-05 | Arsenic | Skin/vascular | 2.0E+00 | N/A | 6.6E-03 | 2.0E+00 |
| | | | (Total) | 7.7E-05 | N/A | 2.5E-07 | 7.8E-05 | (Total) | | 2.0E+00 | N/A | 6.6E-03 | 2.0E+00 |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 8.1E-06 | N/A | 4.5E-07 | 8.5E-06 | Arsenic | Skin/vascular | 2.1E-01 | N/A | 1.2E-02 | 2.2E-01 |
| | | | (Total) | 8.1E-06 | N/A | 4.5E-07 | 8.5E-06 | (Total) | | 2.1E-01 | N/A | 1.2E-02 | 2.2E-01 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.1E-05 | N/A | 6.1E-07 | 1.1E-05 | Arsenic | Skin/vascular | 2.8E-01 | N/A | 1.6E-02 | 3.0E-01 |
| | | | (Total) | 1.1E-05 | N/A | 6.1E-07 | 1.1E-05 | (Total) | | 2.8E-01 | N/A | 1.6E-02 | 3.0E-01 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.1E-06 | N/A | 2.7E-05 | 2.9E-05 | Arsenic | Skin/vascular | 5.4E-02 | N/A | 7.0E-01 | 7.5E-01 |
| | | | Dibenz(a,h)anthracene | 3.4E-07 | N/A | 1.9E-05 | 1.9E-05 | | | | | | |
| | | | (Total) | 2.4E-06 | N/A | 4.6E-05 | 4.8E-05 | (Total) | | 5.4E-02 | N/A | 7.0E-01 | 7.5E-01 |

| | |
|---|---|
| Total Risk Across Groundwater | 7.8E-05 |
| Total Risk Across Surface Soil | 8.5E-06 |
| Total Risk Across Subsurface Soil | 1.1E-05 |
| Total Risk Across Sediment | 4.8E-05 |
| Total Risk Across All Media and All Exposure Routes | 1.5E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.3E+00 |
| Total Skin HI = | 3.3E+00 |
| Total Vascular HI = | 3.3E+00 |

TABLE 10.4.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.1E-04 | N/A | N/A | 2.1E-04 | | | | | | |
| | | | (Total) | 2.1E-04 | N/A | 0.0E+00 | 2.1E-04 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.2E-05 | N/A | 1.8E-06 | 1.3E-05 | | | | | | |
| | | | (Total) | 1.2E-05 | N/A | 1.8E-06 | 1.3E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.5E-05 | N/A | 2.4E-06 | 1.8E-05 | | | | | | |
| | | | (Total) | 1.5E-05 | N/A | 2.4E-06 | 1.8E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.0E-06 | N/A | 2.7E-05 | 3.0E-05 | | | | | | |
| | | | Dibenz(a,h)anthracene | 4.8E-07 | N/A | 1.9E-05 | 2.0E-05 | | | | | | |
| | | | (Total) | 3.5E-06 | 0.0E+00 | 4.7E-05 | 3.0E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 2.1E-04 |
| Total Risk Across Surface Soil | 1.3E-05 |
| Total Risk Across Subsurface Soil | 1.8E-05 |
| Total Risk Across Sediment | 3.0E-05 |
| Total Risk Across All Media and All Exposure Routes | 2.7E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | N/A |

TABLE 10.5.CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 6.2E-06 | N/A | N/A | 6.2E-06 | | | | | | |
| | | | (Total) | 6.2E-06 | 0.0E+00 | 0.0E+00 | 6.2E-06 | (Total) | (Total) | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | | | | Total Risk Across Groundwater | 6.2E-06 | | | | | Total Hazard Index Across All Media and All Exposure Routes | 0.0E+00 |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 6.2E-06 | | | | | | |

TABLE 10.6.CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.4E-05 | N/A | 3.4E-08 | 1.4E-05 | | | | | | 0.0E+00 |
| | | | (Total) | 1.4E-05 | N/A | 3.4E-08 | 1.4E-05 | (Total) | | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.6E-06 | N/A | 1.5E-07 | 1.7E-06 | | | | | | |
| | | | (Total) | 1.6E-06 | N/A | 1.5E-07 | 1.7E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.0E-07 | N/A | 2.8E-06 | 3.0E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.8E-07 | N/A | 1.1E-05 | 1.2E-05 | | | | | | |
| | | | (Total) | 3.8E-07 | N/A | 1.4E-05 | 1.5E-05 | (Total) | | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

| | |
|---|---|
| Total Risk Across Groundwater | 1.4E-05 |
| Total Risk Across Subsurface Soil | 1.7E-06 |
| Total Risk Across Sediment | 1.5E-05 |
| Total Risk Across All Media and All Exposure Routes | 3.0E-05 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 0.0E+00 |

TABLE 10.7.CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.0E-05 | N/A | N/A | 2.0E-05 | | | | | | |
| | | | (Total) | 2.0E-05 | N/A | 0.0E+00 | 2.0E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.4E-06 | N/A | 5.5E-07 | 2.0E-06 | | | | | | |
| | | | (Total) | 1.4E-06 | N/A | 5.5E-07 | 2.0E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.8E-06 | N/A | 3.3E-07 | 2.2E-06 | | | | | | |
| | | | (Total) | 1.8E-06 | N/A | 3.3E-07 | 2.2E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.3E-07 | N/A | 2.9E-06 | 3.1E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.1E-07 | N/A | 1.2E-05 | 1.2E-05 | | | | | | |
| | | | (Total) | 4.4E-07 | 0.0E+00 | 1.4E-05 | 1.5E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 2.0E-05 |
| Total Risk Across Surface Soil | 2.0E-06 |
| Total Risk Across Subsurface Soil | 2.2E-06 |
| Total Risk Across Sediment | 1.5E-05 |
| Total Risk Across All Media and All Exposure Routes | 3.9E-05 |
| Total Hazard Index Across All Media and All Exposure Routes | N/A |

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 2

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| Current | Groundwater | Groundwater | Tap Water | Resident | Adult | Dermal Absorption | On-site | None | Groundwater not currently used on site as a water supply. |
| | | | | | | Ingestion | On-site | None | Groundwater not currently used on site as a water supply. |
| | | | | | Child | Dermal Absorption | On-site | None | Groundwater not currently used on site as a water supply. |
| | | | | | | Ingestion | On-site | None | Groundwater not currently used on site as a water supply. |
| Current/Future | Surface Soil | Surface Soil | Site 2 Surface Soil | Industrial Worker | Adult | Dermal Absorption | On-site | Quant | Site workers could contact surface soil while performing activities at the site. |
| | | | | | | Ingestion | On-site | Quant | Site workers could contact surface soil while performing activities at the site. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | Quant | Public can access the site and may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Public can access the site and may contact surface soil. |
| | | Air | Emissions from Site 2 Surface Soil | Industrial Worker | Adult | Inhalation | On-site | Quant | Site workers may inhale vapors and dust from areas of site disturbed during activites at the site. |
| | | | | Trespasser/Visitor | Adolescents | Inhalation | On-site | Quant | Public can access the site and inhale vapors and dust. |
| | Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Industrial Worker | Adult | Dermal Absorption | On-site | Quant | Site workers could contact surface water while performing maintenance activities on the surface water bodies. |
| | | | | | | Ingestion | On-site | Quant | Site workers could contact surface water while performing maintenance activities on the surface water bodies. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | Quant | Public can access the site and may contact surface water. |
| | | | | | | Ingestion | On-site | Quant | Public can access the site and may contact surface water. |
| | | Animal Tissue | Reeds Gut | Fisher | Adult | Ingestion | On-site | Qual | Fishing may occur in Reeds Gut. |
| | | | | | Child | Ingestion | On-site | Qual | Fishing may occur in Reeds Gut. |
| | Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Industrial Worker | Adult | Dermal Absorption | On-site | Quant | Site workers could contact sediment while performing maintenance activities on the surface water bodies. |
| | | | | | | Ingestion | On-site | Quant | Site workers could contact sediment while performing maintenance activities on the surface water bodies. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | Quant | Public can access the site and may contact sediment. |
| | | | | | | Ingestion | On-site | Quant | Public can access the site and may contact sediment. |
| Future | Groundwater | Groundwater | Tap Water | Resident | Adult | Dermal Absorption | On-site | None | Adults are expected to shower with inhalation and ingestion as the main contributors to risk. |
| | | | | | | Ingestion | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | | Ingestion | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| Future | Groundwater | Groundwater | Tap Water | Resident | Child/Adult | Dermal Absorption | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | | Ingestion | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | Excavation Pit | Construction Worker | Adult | Dermal Absorption | On-site | Quant | Construction worker may contact shallow groundwater during excavation activities. |
| | | | | | | Ingestion | On-site | None | Construction worker not expected to incidentally ingest significant amount of groundwater during construction activities. |

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 2

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| | | Air | Shower | Resident | Adult | Inhalation | On-site | Quant | Although unlikely, upper aquifer groundwater could be used as a potable water supply in the future. |
| | | | | | Child | Inhalation | On-site | None | Children are assumed not to shower. |
| | | | | | Child/Adult | Inhalation | On-site | None | Children are assumed to take baths, not showers, resulting in minimal inhalation exposure. |
| | | | Water Vapors at Excavation Pit | Construction Worker | Adult | Inhalation | On-site | Quant | Construction worker may inhale vapors from groundwater during excavation activities. |
| | Surface Soil | Surface Soil | Site 2 Surface Soil | Resident | Adult | Dermal Absorption | On-site | Quant | Future residents may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact surface soil. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Future residents may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact surface soil. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Future residents may contact surface soil. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact surface soil. |
| | | Air | Emissions from Site 2 Surface Soil | Resident | Adult | Inhalation | Off-site | Quant | Residents may inhale vapors and dust from sites. |
| | | | | | Child | Inhalation | Off-site | Quant | Residents may inhale vapors and dust from sites. |
| | | | | | Child/Adult | Inhalation | Off-site | Quant | Residents may inhale vapors and dust from sites. |
| | Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Industrial Worker | Adult | Dermal Absorption | On-site | None | Site workers would not contact subsurface site soil during activities at the site. |
| | | | | | | Ingestion | On-site | None | Site workers would not contact subsurface site soil during activities at the site. |
| | | | | Trespasser/Visitor | Adolescents | Dermal Absorption | On-site | None | Public would not be expected to contact subsurface soil. |
| | | | | | | Ingestion | On-site | None | Public would not be expected to contact subsurface soil. |
| | | | | Resident | Adult | Dermal Absorption | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| Future | Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Resident | Child | Dermal Absorption | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | | | Ingestion | On-site | Quant | Future residents may contact subsurface soil that has been moved to the surfacewhen the site was development. |
| | | | | Construction Worker | Adult | Dermal Absorption | On-site | Quant | Exposure to subsurface soil during construction activities. |
| | | | | | | Ingestion | On-site | Quant | Exposure to subsurface soil during construction activities. |

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

MCAS Cherry Point OU5, Site 2

| Scenario Timeframe | Medium | Exposure Medium | Exposure Point | Receptor Population | Receptor Age | Exposure Route | On-Site/ Off-Site | Type of Analysis | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|---|---|---|---|---|
| | | Air | Emissions from Site 2 Exposed Subsurface Soil | Industrial Worker | Adult | Inhalation | On-site | None | Site workers would not inhale vapors from subsurface site soil during activities at the site. |
| | | | | Trespasser/Visitor | Adolescents | Inhalation | On-site | None | Public would not be expected to inhale vapors from subsurface soil. |
| | | | | Resident | Adult | Inhalation | Off-site | Quant | Future residents may inhal vapor and particulate emissions from subsurface soil that has been moved to the surface when the site was developed. |
| | | | | | Child | Inhalation | Off-site | Quant | Future residents may inhal vapor and particulate emissions from subsurface soil that has been moved to the surface when the site was developed. |
| | | | | | Child/Adult | Inhalation | Off-site | Quant | Future residents may inhal vapor and particulate emissions from subsurface soil that has been moved to the surface when the site was developed. |
| | | | | Construction Worker | Adult | Inhalation | On-site | Quant | Exposure to emissions from subsurface soil during construction activities. |
| | Surface Water | Surface Water | Reeds Gut and Unnamed Tributary | Construction Worker | Adult | Dermal Absorption | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | | | Ingestion | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | Resident | Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to surface water if site used for future residential development. |
| | Animal Tissue | Animal Tissue | Reeds Gap | Resident | Adult | Ingestion | On-site | Qual | Fishing may occur in Reeds Gap. |
| | | | | | Child | Ingestion | On-site | Qual | Fishing may occur in Reeds Gap. |
| Future | Sediment | Sediment | Reeds Gut and Unnamed Tributary | Construction Worker | Adult | Dermal Absorption | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | | | Ingestion | On-site | None | Construction not expected to occur in drainage ditch. |
| | | | | Resident | Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | Child | Dermal Absorption | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | Child/Adult | Dermal Absorption | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |
| | | | | | | Ingestion | On-site | Quant | Residents may be exposed to sediment if site used for future residential development. |

Table 2.1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1,200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.41 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane( | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 5,600 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.73 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 51 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 12 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 65 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.45 C | 0.00015 | NCSSL | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.0069 C | 0.00000197 | NCSSL | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.28 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.34 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.6 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.4 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.01 | J | 0.01 | J | MG/KG | OU5-S2-SS07-01 | 1/8 | 0.005 - 0.006 | 0.01 | NA | 730 N | 0.692 | NCSSL | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 79 N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 160 N | 2.81 | NCSSL | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.82 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.39 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 36 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.25 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 15 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.36 N | 0.001 | NCSSL | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.2 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 57 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.1 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.4 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 8.9 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 260 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.1 C | 0.022 | NCSSL | NO | DLBSL |

Table 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1,700 S | 2.24 | NCSSL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.5 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.053 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.003 | J | 0.024 | | MG/KG | OU5-S2-SS05-01 | 6/8 | 0.005 - 0.006 | 0.024 | NA | 39 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.079 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 27 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.3 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 6.9 C | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 610 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 0.61 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 120 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.3 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.1** | **1.1** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.3 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.1 C | | | NO | BSL |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.1** | **1.1** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.1** | **1.1** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 49 N | | | NO | DLBSL |

Table 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 370 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5.6 N | 11.4 | NCSSL | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2,200 N | 995 | NCSSL | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2.2 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.28 | J | 0.28 | J | MG/KG | OU5-S2-SS05-01 | 1/8 | 0.36 - 0.43 | 0.28 | NA | 610 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 0.62 C | 0.358 | NCSSL | NO | DLBSL |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.062 C** | **0.091** | **NCSSL** | **YES** | **DLASL** |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 0.62 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 230 N | 6720 | NCSSL | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.2 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1,200 N | 27.6 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 62 C | 39.8 | NCSSL | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 610 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 240 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.062 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4,900 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 230 N | 276 | NCSSL | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 270 N | 44.3 | NCSSL | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.3 C** | **0.032** | **NCSSL** | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 37 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 35 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 0.62 C | 3.26 | NCSSL | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 510 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5.6 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2.0 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 3.0 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 230 N | 59.6 | NCSSL | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 3,700 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 230 N | 286 | NCSSL | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 9.1 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.21 C** | | | **YES** | **DLASL** |

Table 2.1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 35 C | 6.67 | NCSSL | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.1** | | **4.1** | | **MG/KG** | **OU5-S2-SS07-01** | **8/8** | **0.87 - 1.1** | **4.1** | **3.9** | **0.39 C** | **26.2** | **NCSSL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 9.1 | J | 106 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 17 - 23 | 106 | 23 | 540 N | 848 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | 0.21 | J | 0.7 | | MG/KG | OU5-S2-SS05-01 | 2/8 | 0.43 - 0.57 | 0.7 | 1.12 | 3.7 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.5 | | 12.8 | | MG/KG | OU5-S2-SS08-01 | 8/8 | 0.87 - 1.1 | 12.8 | 17 | 210.0 N | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 3.8 | | 33.5 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.26 - 0.34 | 33.5 | 10.5 | 400 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.16 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.034 - 0.038 | 0.16 | 0.13 | 0.61 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | 0.44 | J | 0.44 | J | MG/KG | OU5-S2-SS03-01 | 1/8 | 0.43 - 0.57 | 0.44 | 0.56 | 39.0 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.12 - 0.19 | 0.19 | 0.82 | 39.0 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil
2000 Screening value used for acetophenone
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
Bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-dichloropropene
Naphthalene used as surrogate for 2-methylnaphthlene
Naphthalene used as surrogate for acenaphthylene
Pyrene used as surrogate for benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/
To Be Considered
NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.2

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | [2] Background Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 218 S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.47 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane( | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,109 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.78 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 54 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.29 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 385 S | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.23 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.08 N | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 131 S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.3 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.36 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.1 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.0 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.01 | J | 0.01 | J | MG/KG | OU5-S2-SS07-01 | 1/8 | 0.005 - 0.006 | 0.01 | NA | 868 N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 196 S | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.9 S | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.3E+06 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.4 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 37 S | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.23 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 17 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.1 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.3 C | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 973 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 N | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.44 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.4 N | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3,078 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 269 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 10 C | | | NO | DLBSL |

Table 2.2

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | [2] Background Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 609 N | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.7 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 68 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.05 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.003 | J | 0.024 | | MG/KG | OU5-S2-SS05-01 | 6/8 | 0.005 - 0.006 | 0.024 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.11 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 28 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.5 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.88 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 7.3 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.88 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1,315 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.2 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 2.1E+07 N | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 20,586 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 6.2E+05 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.1E+06 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 4.1E+05 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.1E+05 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2.1E+05 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 7.6 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5.8 C | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.0E+07 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 5,888 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 7.6 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 19,663 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 5,888 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 1.0E+07 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 7.6 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 8.2E+05 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.0E+06 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.0E+06 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 5,888 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 7.6 N | | | NO | DLBSL |

Table 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | [2] Background Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1,709 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5.8 C | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 32,774 N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 40,220 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.28 | J | 0.28 | J | MG/KG | OU5-S2-SS05-01 | 1/8 | 0.36 - 0.43 | 0.28 | NA | 2.1E+07 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 12,121 C | | | NO | DLBSL |
| 50-32-8 | Benzo(a)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1,212 C | | | NO | DLBSL |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 12,121 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 17,833 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 121,211 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.1E+07 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.0E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.4E+05 N | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.2E+06 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2,300 S | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 8.2E+06 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1,212 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 407 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.6E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2.1E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 8.2E+06 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2,253 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.1E+05 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5,496 N | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 11,734 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 2.1E+05 N | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 12,121 C | | | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 9.3E+06 S | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 5.8 C | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 3.9 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | NA | 73,736 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 17,833 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.2E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 17,833 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 4.2 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | **NA** | **0.3 C** | | | **YES** | **DLASL** |

Table 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | [2] Background Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 632,026 C | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1,264 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | NA | 1.8E+06 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 1.1 | | 4.1 | | MG/KG | OU5-S2-SS07-01 | 8/8 | 0.87 - 1.1 | 4.1 | 3.9 | 588 C | | | NO | BSL |
| 7440-39-3 | Barium | 9.1 | J | 106 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 17 - 23 | 106 | 23.0 | 2.9E+05 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.21 | J | 0.7 | | MG/KG | OU5-S2-SS05-01 | 2/8 | 0.43 - 0.57 | 0.7 | 1.12 | 1,405 N | | | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.5 | | 12.8 | | MG/KG | OU5-S2-SS08-01 | 8/8 | 0.87 - 1.1 | 12.8 | 17.0 | 30 N | | | NO | BSL |
| 7439-92-1 | Lead | 3.8 | | 33.5 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.26 - 0.34 | 33.5 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.02 | J | 0.16 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.034 - 0.038 | 0.16 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | 0.44 | J | 0.44 | J | MG/KG | OU5-S2-SS03-01 | 1/8 | 0.43 - 0.57 | 0.44 | 0.56 | NA | | | NO | NTX |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.12 - 0.19 | 0.19 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.
[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.
[3] EPA Soil Screening Guidance, 5/96, Soil Screening Levels for Inhalation of Volatiles/Fugitive Particulates.
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
ND = Not Detected

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 320 N | | | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **10.8 W** | **0.17** | **AWQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.59 A** | | | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 81 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 330 A | | | NO | DLASL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | NA | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 35 A | | | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.048 C** | | | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.00076 C** | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 420 A | | | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.38 A** | | | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.5 A** | | | **YES** | **DLASL** |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 320 A | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 63 A | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 190 N | | | NO | DLBSL |
| **591-78-6** | **2-Hexanone** | **ND** | | **ND** | | **UG/L** | | **0/5** | **4 - 4** | **4** | **NA** | **1 N** | | | **YES** | **DLASL** |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/5 | 3 - 3 | 3 | NA | 16 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 4 | J | 24 | | UG/L | OU5-S2-SW03 | 3/5 | 5 - 5 | 24 | NA | 61 N | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 71.4 W | 2.2 | AWQS | NO | DLBSL |
| 75-27-4 | Bromochloromethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | NA | | | NO | NTX |
| **75-25-2** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.55 A** | | | **YES** | **DLASL** |
| 74-83-9 | Bromoform | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 4.3 A | | | NO | DLBSL |
| 75-15-0 | Bromomethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 47 A | | | NO | DLBSL |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **4.42 W** | **0.23** | **AWQS** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 130 A | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 4.6 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 5.7 A | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 1.5 A | | | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.4 A** | | | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 530 A | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 4.6 A | | | NO | DLBSL |

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 160 N | | | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.69 A** | | | **YES** | **DLASL** |
| 108-88-3 | Toluene | 0.6 | J | 0.6 | J | UG/L | OU5-S2-SW02 | 1/5 | 1 - 1 | 0.6 | NA | 1300 A | | | NO | BSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **525 W** | **0.025** | **AWQS** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 21 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 6.1 N | | | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.34 A** | | | **YES** | **DLBSL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | NA | 140 A | | | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | **NA** | **0.34 A** | | | **YES** | **DLBSL** |
| | | | | | | | | | | | | | | | | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 5 | | 5 | | UG/L | OU5-S2-SW01 | 1/5 | 5 - 5 | 5 | NA | 1400 A | | | NO | BSL |
| 95-95-4 | 2,4,5-Trichlorophenol | 20 | | 20 | | UG/L | OU5-S2-SW01 | 1/5 | 20 - 20 | 20 | NA | 1800 A | | | NO | BSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **1.4 A** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 77 A | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 380 A | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | UG/L | | 0/5 | 20 - 20 | 20 | NA | 69 A | | | NO | DLBSL |
| **121-14-2** | **2,4-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.11 A** | | | **YES** | **DLASL** |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **3.6 N** | | | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 1000 A | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 81 A | | | NO | DLBSL |
| **91-57-6** | **2-Methylnaphthalene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 95-48-7 | 2-Methylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 180 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 81 A | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **UG/L** | | **0/1** | **5 - 5** | **5** | **NA** | **0.021 A** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | **NA** | **13 A** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 3000 A | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 15 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | NA | | | NO | NTX |
| 106-44-5 | 4-Methylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 18 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | **NA** | **0.1 N** | | | **YES** | **DLASL** |

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-02-7 | 4-Nitrophenol | ND | | ND | | UG/L | | 0/5 | 20 - 20 | 20 | NA | 81 A | | | NO | DLBSL |
| 83-32-9 | Acenaphthene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 670 A | | | NO | DLBSL |
| **208-96-8** | **Acenaphthylene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 8300 A | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 830 A | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 1500 A | | | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 2000 A | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 150 N | | | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **2.4 N** | | | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 17000 A | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 270000 A | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 130 A | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 1100 A | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.00028 A** | | | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **49.7 W** | **0.44** | **AWQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 40 A | | | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **1.4 A** | | | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 35 A | | | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.62 N** | | | **YES** | **DLASL** |
| 98-95-3 | Nitrobenzene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 17 A | | | NO | DLBSL |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.27 A** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 830 A | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 21000 A | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 830 A | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | NA | | | NO | NTX |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.03 A** | | | **YES** | **DLASL** |

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **1.2 A** | | | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | **NA** | **0.005 A** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 3.3 A | | | YES | DLASL |
| **7440-38-2** | **Arsenic** | **2.4** | | **7.6** | | **UG/L** | **OU5-S2-SW03** | **3/5** | **10 - 10** | **7.6** | **NA** | **10 W** | **0.018** | **AWQS** | **YES** | **ASL** |
| 7440-39-3 | Barium | 29.7 | | 66.4 | | UG/L | OU5-S2-SW03 | 5/5 | 200 - 200 | 66.4 | NA | 1,000 A | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.43 | J | 0.43 | J | UG/L | OU5-S2-SW05 | 1/5 | 5 - 5 | 0.43 | NA | 2 N | | | NO | BSL |
| 7440-47-3 | Chromium | 0.92 | J | 9.3 | J | UG/L | OU5-S2-SW03 | 4/5 | 10 - 10 | 9.3 | NA | 11 N | | | NO | BSL |
| 7439-92-1 | Lead | 2.8 | J | 3 | | UG/L | OU5-S2-SW01 | 2/5 | 3 - 3 | 3 | NA | 15 M | | | NO | BSL |
| 7439-97-6 | Mercury | ND | | ND | | UG/L | | 0/5 | .01 - .05 | 0.05 | NA | 1.1 N | | | NO | DLBSL |
| 7782-49-2 | Selenium | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | NA | 170 A | | | NO | DLBSL |
| 7440-22-4 | Silver | 2 | J | 2 | | UG/L | OU5-S2-SW05 | 1/5 | 10 - 10 | 2 | NA | 18 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values not available.

[3] Used both North Carolina WQS for Human Health and Federal Ambient Water Quality Criteria, Consumption of Water and Organisms.
If both values available, Federal AWQS value included in ARAR column, but used as a screening value.
If neither value available, used USEPA Region IX Tap Water PRG (non-cancer values divided by 10 to account for exposure to multiple constituents)
Screening value for 2-hexanone based on provisional RfD.
2-Chlorophenol used as surrogate for 2-nitrophenol, 4-chloro-3-methylphenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene and benzo(g,h,I) perylene
1,2-Dichloropropene used as surrogate for cis-1,3-dichloropropene and trans-1,3-dichloropropene
Naphthalene used as surrogate for 2-methylnaphthalene and acenaphthylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
Detection Limit Below Screening Level (DLBSL)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Water Quality Standard, Human Health
AWQS = Federal Ambient Water Quality Criteria, Consumption of Water and Organisms
PRG = USEPA Region IX Preliminary Remedition Goals
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
W = North Carolina WQS
A = Federal AWQS
C = Carcinogenic PRG
N = Non-Carcinogenic PRG
M = Action level for lead from Federal Drinking Water MCLs

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 1,200 | S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.41 | C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 5,600 | N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.73 | C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 51 | N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 12 | N | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 65 | N | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.45 | C | | | NO | DLBSL |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.006 - .044** | **0.044** | **NA** | **0.0069** | C | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 370 | S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.28 | C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.34 | C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 1.6 | N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 3.4 | C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.11 | J | 0.11 | J | MG/KG | OU5-S2-SD04-00 | 1/5 | .006 - .044 | 0.11 | NA | 730 | N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 11 | N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 79 | N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 160 | N | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.6 | C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.82 | C | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 62 | C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.39 | N | | | NO | DLBSL |
| 75-15-0 | Carbon disulfide | 0.03 | J | 0.03 | J | MG/KG | OU5-S2-SD05-00 | 1/5 | .006 - .044 | 0.03 | NA | 36 | N | | | NO | BSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.25 | C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 15 | N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 3 | C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.36 | N | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 1.2 | C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 57 | N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 140 | S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 1.1 | C | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 9.4 | N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 8.9 | C | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 2,200 | N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 62 | C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 260 | N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 9.1 | C | | | NO | DLBSL |

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 1,700 S | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 1.5 C | | | NO | DLBSL |
| 108-88-3 | Toluene | 0.096 | | 0.096 | | MG/KG | OU5-S2-SD01-00 | 1/5 | .006 - .044 | 0.096 | NA | 520 N | | | NO | BSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.053 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.01 | | 0.11 | J | MG/KG | OU5-S2-SD05-00 | 4/5 | .006 - .044 | 0.11 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.079 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 27 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 4.3 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 6.9 C | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 350 S | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | NA | 610 N | | | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.61 N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 120 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | NA | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 6.3 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 6.3 N | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **1.1 C** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | **NA** | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | NA | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | **NA** | **0.17 N** | | | **YES** | **DLASL** |

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | NA | 49 | N | | | NO | DLBSL |
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 370 | N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 5.6 | N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.049** | **N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 2,200 | N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 2.2 | C | | | NO | DLASL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 610 | N | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.62** | **C** | | | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.062** | **C** | | | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.62** | **C** | | | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 230 | N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 6.2 | C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 1,200 | N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 3,100 | N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 24 | C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 62 | C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 610 | N | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 240 | N | | | NO | BSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.062** | **C** | | | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 29 | N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 4,900 | N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 100,000 | M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 230 | N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 270 | N | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.3** | **C** | | | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 6.2 | C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 37 | N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 35 | C | | | NO | DLBSL |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.62** | **C** | | | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 510 | C | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 5.6 | N | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 2 | N | | | NO | DLBSL |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | **NA** | **3** | **C** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 230 | N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 3,700 | N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 230 | N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 3 | C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.21** | **C** | | | **YES** | **DLASL** |

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 35 C | | | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | **NA** | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | NA | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.4** | | **4.2** | **J** | **MG/KG** | **OU5-S2-SD05-00** | **5/5** | **0.96 - 4.6** | **4.2** | **NA** | **0.39 C** | | | **YES** | **ASL** |
| 7440-39-3 | Barium | 9.7 | J | 32 | J | MG/KG | OU5-S2-SD04-00 | 5/5 | 19 - 92 | 32 | NA | 540 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.07 | J | 0.72 | J | MG/KG | OU5-S2-SD05-00 | 5/5 | 0.48 - 2.3 | 0.72 | NA | 3.7 N | | | NO | BSL |
| 7440-47-3 | Chromium | 3.6 | J | 31 | J | MG/KG | OU5-S2-SD05-00 | 5/5 | 0.96 - 4.6 | 31 | NA | 210 C | | | NO | BSL |
| 7439-92-1 | Lead | 4.2 | | 39.2 | | MG/KG | OU5-S2-SD04-P-00 | 5/5 | 0.29 - 1.4 | 39.2 | NA | 400 N | | | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.14 | J | MG/KG | OU5-S2-SD04-00 | 5/5 | 0.037 - 0.15 | 0.14 | NA | 0.61 N | | | NO | BSL |
| 7782-49-2 | Selenium | 1.85 | | 2 | | MG/KG | OU5-S2-SD05-00 | 2/5 | 0.48 - 2.3 | 2 | NA | 39 N | | | NO | BSL |
| 7440-22-4 | Silver | 0.56 | | 0.6 | | MG/KG | OU5-S2-SD05-00 | 2/5 | 0.96 - 4.6 | 0.6 | NA | 39 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values not available.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil

Screening value for 2-hexanone based on RfD.

2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene

Naphthalene used as surrogate for2-Methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Non-Carcinogenic

S = Soil Saturation Concentration

M = Ceiling Limit

Table 2.5

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 0.5 | J | 2 | J | UG/L | OU5-S2-TW02, OU5-S2-TW03 | 9/15 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **0.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **0.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **0.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **0.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | | | 0/15 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | | | 0/15 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 4 | J | 4 | J | UG/L | OU5-2GW02 | 1/15 | 5 - 5 | 4 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **1** | | **2** | | **UG/L** | **OU5-S2-TW03, OU5-S2-TW03-P** | **2/15** | **1 - 1** | **2** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **ASL** |
| 75-27-4 | Bromochloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-25-2** | **Bromodichloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **0.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromoform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **0.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-15-0** | **Bromomethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **0.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | 0.6 | J | 0.6 | J | UG/L | OU5-S2-TW04 | 1/15 | 1 - 1 | 0.6 | NA | 4.6 | C | 2800 | WQS | NO | BSL |
| **67-66-3** | **Chloroform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **0.19/80** | **WQS/MCL** | **YES** | **DLASL** |
| 74-87-3 | Chloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **0.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

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Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 160 N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.66 C** | **0.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 72 N | 1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.02 C** | **0.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 21 N | 530/10000 | WQS/MCL | NO | DLBSL |
| **156-59-2** | **cis-1,2-Dichloroethene** | **9** | | **9** | | **UG/L** | **OU5-S2-TW03, OU5-S2-TW03-P** | **1/15** | **1 - 1** | **9** | **NA** | **6.1 N** | **70** | **WQS/MCL** | **YES** | **ASL** |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.19 W** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 12 N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.19 W** | | | **YES** | **DLASL** |
| **108-60-1** | **2,2'-Oxybis(1-chloropropane)** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.27 C** | **0.26** | **WQS** | **YES** | **DLASL** |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 360 N | 370 | WQS | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.36 N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 11 N | 11 | WQS | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 73 N | 140 | WQS | NO | DLBSL |
| **51-28-5** | **2,4-Dinitrophenol** | **ND** | | **ND** | | | | **0/15** | **20 - 26** | **26** | **NA** | **7.3 N** | **7.3** | **WQS** | **YES** | **DLASL** |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 7.3 N | 7.3 | WQS | NO | DLBSL |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **3.6 N** | **3.7** | **WQS** | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 49 N | 49 | WQS | NO | DLBSL |
| **95-57-8** | **2-Chlorophenol** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **3 N** | **0.1** | **WQS** | **YES** | **DLASL** |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 28 W | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 180 N | 180 | WQS | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | | | **0/15** | **20 - 26** | **26** | **NA** | **0.1 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 29 W | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.15 C** | **0.15** | **WQS** | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | | | **0/15** | **20 - 26** | **26** | **NA** | **11 W** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | | | **0/15** | **20 - 26** | **26** | **NA** | **0.37 W** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 15 N | 15 | WQS | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| **106-44-5** | **4-Methylphenol** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **18 N** | **3.5** | **WQS** | **YES** | **DLASL** |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | | | **0/15** | **20 - 26** | **26** | **NA** | **11 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 29 N | 29 | WQS | NO | DLBSL |

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Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 37 N | 80 | WQS | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 120-12-7 | Anthracene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 180 N | 2100 | WQS | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0092 C** | **0.00479/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.92 C** | **0.479** | **WQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 730 N | 100 | WQS | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **9.2 C** | **4.79** | **WQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 360 N | 700 | WQS | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 150 N | 140 | WQS | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0092 C** | **0.00479** | **WQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **2.4 N** | **28** | **WQS** | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 2900 N | 5000 | WQS | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 36000 N | 3700 | WQS | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 150 N | 280 | WQS | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 24 N | 280 | WQS | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.042 N** | **0.02/1** | **WQS/MCL** | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.86 C** | **0.44** | **WQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 22 N | 50 | MCL | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **4.8 C** | **4.8** | **WQS** | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 71 C | 36.8 | WQS | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.62 N** | **21** | **WQS** | **YES** | **DLASL** |
| **98-95-3** | **Nitrobenzene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.34 N** | **0.35** | **WQS** | **YES** | **DLASL** |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.56 C** | **0.3/1** | **WQS/MCL** | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 2200 N | 300 | WQS | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 18 N | 210 | WQS | NO | DLBSL |
| **111-91-1** | **bis(2-Chloroethoxy)methane** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.27 C** | | | **YES** | **DLASL** |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0098 C** | **0.031** | **WQS** | **YES** | **DLASL** |

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Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
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| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **4.8 C** | **3/6** | **WQS/MCL** | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0096 C** | **0.0096** | **WQS** | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 14 C | 14 | WQS | NO | DLBSL |
| 7440-38-2 | Arsenic | 3.3 | J | 5.2 | J | UG/L | OU5-2GW03 | 2/15 | 10 - 10 | 5.2 | 6.16 | 0.045 C | 50/10 | WQS/MCL | NO | BKG |
| 7440-39-3 | Barium | 9.8 | J | 89.7 | J | UG/L | OU5-S2-TW06 | 15/15 | 200 - 200 | 89.7 | 80.6 | 260 N | 2000 | WQS/MCL | NO | BSL |
| 7440-43-9 | Cadmium | 0.65 | J | 0.67 | J | UG/L | OU5-S2-TW03 | 2/15 | 5 - 5 | 0.67 | ND | 1.8 N | 5 | WQS/MCL | NO | DLBSL |
| **7440-47-3** | **Chromium** | **1.4** | **J** | **29.3** | | **UG/L** | **OU5-S2-TW03** | **2/15** | **10 - 10** | **29.3** | **8.38** | **11 N** | **50/100** | **WQS/MCL** | **YES** | **ASL** |
| 7439-92-1 | Lead | 2.2 | J | 6.5 | | UG/L | OU5-S2-TW03 | 7/15 | 3 - 3 | 6.5 | 1.72 | 15 W | 15 | WQS | NO | BSL |
| 7439-97-6 | Mercury | ND | | ND | | | | 0/15 | 0.01 - 0.05 | 0.05 | ND | 1.1 W | 2 | MCL | NO | BSL |
| 7782-49-2 | Selenium | ND | | ND | | | | 0/15 | 4.33 - 4.33 | 4.33 | 1.38 | 18 N | 50 | WQS/MCL | NO | DLBSL |
| 7440-22-4 | Silver | ND | | ND | | | | 0/15 | 1.3 - 1.3 | 1.3 | ND | 18 N | 18 | WQS | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted
Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Groundwater Standards
MCL = Federal Maximum Contaminant Level
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
W = North Carolina WQS

Table 2.6

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 0.5 | J | 2 | J | UG/L | OU5-S2-TW02 OU5-S2-TW03 | 9/15 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | | | 0/15 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | | | 0/15 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 4 | J | 4 | J | UG/L | OU5-2GW02 | 1/15 | 5 - 5 | 4 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **1** | | **2** | | **UG/L** | **OU5-S2-TW03 OU5-S2-TW03-P** | **2/15** | **1 - 1** | **2** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **ASL** |
| 75-27-4 | Bromochloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-25-2** | **Bromodichloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromoform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-15-0** | **Bromomethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | 0.6 | J | 0.6 | J | UG/L | OU5-S2-TW04 | 1/15 | 1 - 1 | 0.6 | NA | 4.6 | C | 2800 | WQS | NO | BSL |
| **67-66-3** | **Chloroform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **.19/80** | **WQS/MCL** | **YES** | **DLASL** |
| 74-87-3 | Chloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

Table 2.6
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 160 N | 100 | WQS/MCL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 0.66 C | .7/5 | WQS/MCL | YES | DLASL |
| 108-88-3 | Toluene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 72 N | 1000 | WQS/MCL | NO | DLBSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 0.02 C | .015/2 | WQS/MCL | YES | DLASL |
| 1330-20-7 | Xylene, total | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 21 N | 530/10000 | WQS/MCL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | 9 | | 9 | | UG/L | OU5-S2-TW03 OU5-S2-TW03-P | 1/15 | 1 - 1 | 9 | NA | 6.1 N | 70 | WQS/MCL | YES | ASL |
| 5923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 0.19 W | | | YES | DLASL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 12 N | 70/100 | WQS/MCL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 0.19 W | | | YES | DLASL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 0.27 C | 0.26 | WQS | YES | DLASL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 360 N | 370 | WQS | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 0.36 N | 6.1 | WQS | YES | DLASL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 11 N | 11 | WQS | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 73 N | 140 | WQS | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 7.3 N | 7.3 | WQS | YES | DLASL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 7.3 N | 7.3 | WQS | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 3.6 N | 3.7 | WQS | YES | DLASL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 49 N | 49 | WQS | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 3 N | 0.1 | WQS | YES | DLASL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 28 W | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 180 N | 180 | WQS | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 0.1 N | 0.22 | WQS | YES | DLASL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 29 W | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 0.15 C | 0.15 | WQS | YES | DLASL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 11 W | | | YES | DLASL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 0.37 W | | | YES | DLASL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 15 N | 15 | WQS | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | NA | | | NO | NTX |
| 106-44-5 | 4-Methylphenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 18 N | 3.5 | WQS | YES | DLASL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 11 N | | | YES | DLASL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | | | 0/15 | 20 - 26 | 26 | NA | 29 N | 29 | WQS | NO | DLBSL |

Table 2.6
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 37 N | 80 | WQS | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 120-12-7 | Anthracene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 180 N | 2100 | WQS | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0092 C** | **.00479/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.92 C** | **0.479** | **WQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 730 N | 100 | WQS | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **9.2 C** | **4.79** | **WQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 360 N | 700 | WQS | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 150 N | 140 | WQS | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0092 C** | **0.00479** | **WQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **2.4 N** | **28** | **WQS** | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 2900 N | 5000 | WQS | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 36000 N | 3700 | WQS | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 150 N | 280 | WQS | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 24 N | 280 | WQS | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.042 N** | **.02/1** | **WQS/MCL** | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.86 C** | **0.44** | **WQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 22 N | 50 | WQS/MCL | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **4.8 C** | **4.8** | **WQS** | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.092 C** | **0.0479** | **WQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 71 C | 36.8 | WQS | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.62 N** | **21** | **WQS** | **YES** | **DLASL** |
| **98-95-3** | **Nitrobenzene** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.34 N** | **0.35** | **WQS** | **YES** | **DLASL** |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.56 C** | **.3/1** | **WQS/MCL** | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 210 W | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 2200 N | 300 | WQS | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 18 N | 210 | WQS | NO | DLBSL |
| **111-91-1** | **bis(2-Chloroethoxy)methane** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.27 C** | | | **YES** | **DLASL** |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0098 C** | **0.031** | **WQS** | **YES** | **DLASL** |

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OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **4.8 C** | **3/6** | **WQS/MCL** | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | | | **0/15** | **5 - 6** | **6** | **NA** | **0.0096 C** | **0.0096** | **WQS** | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | | | 0/15 | 5 - 6 | 6 | NA | 14 C | 14 | WQS | NO | DLBSL |
| 7440-38-2 | Arsenic | 3.3 | J | 5.2 | J | UG/L | OU5-2GW03 | 2/15 | 10 - 10 | 5.2 | 6.16 | 0.045 W | 50/10 | WQS/MCL | NO | BKG |
| 7440-39-3 | Barium | 9.8 | J | 89.7 | J | UG/L | OU5-S2-TW06 | 15/15 | 200 - 200 | 89.7 | 80.6 | 260 N | 2000 | WQS/MCL | NO | BSL |
| 7440-43-9 | Cadmium | 0.65 | J | 0.67 | J | UG/L | OU5-S2-TW03 | 2/15 | 5 - 5 | 0.67 | ND | 1.8 N | 5 | WQS/MCL | NO | BSL |
| **7440-47-3** | **Chromium** | **1.4** | **J** | **29.3** | | **UG/L** | **OU5-S2-TW03** | **2/15** | **10 - 10** | **29.3** | **8.38** | **11 W** | **50/100** | **WQS/MCL** | **YES** | **ASL** |
| 7439-92-1 | Lead | 2.2 | J | 6.5 | | UG/L | OU5-S2-TW03 | 7/15 | 3 - 3 | 6.5 | 1.72 | 15 W | 15 | WQS | NO | BSL |
| 7439-97-6 | Mercury | ND | | ND | | | | 0/15 | 0.01 - 0.05 | 0.05 | ND | 1.1 W | 2 | MCL | NO | DLBSL |
| 7782-49-2 | Selenium | ND | | ND | | | | 0/15 | 4.33 - 4.33 | 4.33 | 1.38 | 18 N | 50 | WQS/MCL | NO | DLBSL |
| 7440-22-4 | Silver | ND | | ND | | | | 0/15 | 1.3 - 1.3 | 1.3 | ND | 18 N | 18 | WQS | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)
Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Groundwater Standards
MCL = Federal Maximum Contaminant Level
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
W = North Carolina WQS

Table 2.7

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 0.5 | J | 2 | J | UG/L | OU5-S2-TW02 OU5-S2-TW03 | 9/15 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **0.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **0.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **0.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | | | 0/15 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | | | 0/15 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 4 | J | 4 | J | UG/L | OU5-2GW02 | 1/15 | 5 - 5 | 4 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **1** | | **2** | | **UG/L** | **OU5-S2-TW03 OU5-S2-TW03-P** | **2/15** | **1 - 1** | **2** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **ASL** |
| 74-97-5 | Bromochloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **0.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-25-2** | **Bromoform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **0.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromomethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **0.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | 0.6 | J | 0.6 | J | UG/L | OU5-S2-TW04 | 1/15 | 1 - 1 | 0.6 | NA | 4.6 | C | 2800 | WQS | NO | BSL |
| **67-66-3** | **Chloroform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **0.19/80** | **WQS/MCL** | **YES** | **DLASL** |
| 74-87-3 | Chloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 4.3 | C | 5/5 | WQS/MCL | NO | DLBSL |

Table 2.7

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 160 | N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.66** | **C** | **.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 72 | N | 1000/1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.02** | **C** | **.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 21 | N | 530/10000 | WQS/MCL | NO | DLBSL |
| **156-59-2** | **cis-1,2-Dichloroethene** | **9** | | **9** | | **UG/L** | **OU5-S2-TW03 OU5-S2-TW03-P** | **1/15** | **1 - 1** | **9** | **NA** | **6.1** | **N** | **70/70** | **WQS/MCL** | **YES** | **ASL** |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.19** | **W** | **0.19** | **WQS** | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 12 | N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.19** | **W** | **0.19** | **WQS** | **YES** | **DLASL** |

[1] Minimum/maximum detected groundwater concentration since inhalation exposure equal to ingestion exposure for VOCs.

[2] N/A - No background data for VOCs.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)

Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Groundwater Standards
MCL = Federal Maximum Contaminant Level
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
W = North Carolina WQS

Table 2.8
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Water Vapors at Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 320 | N | 200/200 | WQS/MCL | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.055** | **C** | **0.17** | **WQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.2** | **C** | **5** | **MCL** | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 81 | N | 700 | WQS | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | 0.5 | J | 2 | J | UG/L | OU5-S2-TW02 OU5-S2-TW03 | 9/15 | 1 - 1 | 2 | NA | 34 | N | 7/7 | WQS/MCL | NO | BSL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 19 | N | 70/70 | WQS/MCL | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.048** | **C** | **.025/0.2** | **WQS/MCL** | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.0008** | **C** | **.0004/0.05** | **WQS/MCL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 37 | N | 620/600 | WQS/MCL | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.12** | **C** | **.38/5** | **WQS/MCL** | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.16** | **C** | **.56/5** | **WQS/MCL** | **YES** | **DLASL** |
| **541-73-1** | **1,3-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.55** | **N** | **620** | **WQS** | **YES** | **DLASL** |
| **106-37-6** | **1,4-Dichlorobenzene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.5** | **C** | **75** | **WQS/MCL** | **YES** | **DLASL** |
| 78-93-3 | 2-Butanone | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 190 | N | 170 | WQS | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | | | 0/15 | 4 - 4 | 4 | NA | 280 | W | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | | | 0/15 | 3 - 3 | 3 | NA | 16 | N | 16/14 | WQS/MCL | NO | DLBSL |
| 67-64-1 | Acetone | 4 | J | 4 | J | UG/L | OU5-2GW02 | 1/15 | 5 - 5 | 4 | NA | 61 | N | 700 | WQS | NO | BSL |
| **71-43-2** | **Benzene** | **1** | | **2** | | **UG/L** | **OU5-S2-TW03 OU5-S2-TW03-P** | **2/15** | **1 - 1** | **2** | **NA** | **0.34** | **C** | **1/5** | **WQS/MCL** | **YES** | **ASL** |
| 74-97-5 | Bromochloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | NA | | | | NO | NTX |
| **75-27-4** | **Bromodichloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.18** | **C** | **.56/80** | **WQS/MCL** | **YES** | **DLASL** |
| **75-25-2** | **Bromoform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **8.5** | **C** | **.18/80** | **WQS/MCL** | **YES** | **DLASL** |
| **74-83-9** | **Bromomethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.87** | **N** | **0.85** | **WQS** | **YES** | **DLASL** |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.17** | **C** | **.3/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 11 | N | 50/100 | WQS/MCL | NO | DLBSL |
| 75-00-3 | Chloroethane | 0.6 | J | 0.6 | J | UG/L | OU5-S2-TW04 | 1/15 | 1 - 1 | 0.6 | NA | 4.6 | C | 2800 | WQS | NO | BSL |
| **67-66-3** | **Chloroform** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.62** | **N** | **.19/80** | **WQS/MCL** | **YES** | **DLASL** |
| 74-87-3 | Chloromethane | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 1.5 | C | 2.6 | WQS | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.13** | **C** | **.41/80** | **WQS/MCL** | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 2.9 | C | 29/700 | WQS/MCL | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 4.3 | C | 5 | WQS/MCL | NO | DLBSL |

Table 2.8

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Water Vapors at Excavation Pit

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 160 | N | 100 | WQS/MCL | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.66** | **C** | **.7/5** | **WQS/MCL** | **YES** | **DLASL** |
| 108-88-3 | Toluene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 72 | N | 1000 | WQS/MCL | NO | DLBSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.02** | **C** | **.015/2** | **WQS/MCL** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | | | 0/15 | 5 - 5 | 5 | NA | 21 | N | 530/10000 | WQS/MCL | NO | DLBSL |
| **156-59-2** | **cis-1,2-Dichloroethene** | **9** | | **9** | | **UG/L** | **OU5-S2-TW03 OU5-S2-TW03-P** | **1/15** | **1 - 1** | **9** | **NA** | **6.1** | **N** | **70** | **WQS/MCL** | **YES** | **ASL** |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | | | 0/15 | 1 - 1 | 1 | NA | 12 | N | 70/100 | WQS/MCL | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | | | **0/15** | **1 - 1** | **1** | **NA** | **0.19** | **W** | | | **YES** | **DLASL** |

[1] Minimum/maximum detected groundwater concentration since inhalation exposure equal to ingestion exposure for VOCs.

[2] N/A - No background data for VOCs.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Tap Water Adjusted (non-cancer values divided by 10 to account for exposure to multiple constituents.)

Used both North Carolina WQS for Human Health and Federal Maximum Contaminant Level as additional screening criteria, and values are included in the ARAR column.

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Groundwater Standards
MCL = Federal Maximum Contaminant Level
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
W = North Carolina WQS

Table 2.9
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1,200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.41 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 5,600 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.73 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 51 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 12 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 65 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.45 C | 0.00015 | NCSSL | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.0069 C | 0.00000197 | NCSSL | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.28 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.34 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.6 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.4 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.01 | J | 0.01 | J | MG/KG | OU5-S2-SS07-01 | 1/8 | 0.005 - 0.006 | 0.01 | NA | 730 N | 0.692 | NCSSL | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 79 N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 160 N | 2.81 | NCSSL | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.82 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.39 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 36 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.25 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 15 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.36 CI | 0.001 | NCSSL | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.2 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 57 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.1 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.4 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 8.9 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 260 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.1 C | 0.022 | NCSSL | NO | DLBSL |

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OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1,700 S | 2.24 | NCSSL | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.5 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.053 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.003 | J | 0.024 | | MG/KG | OU5-S2-SS05-01 | 6/8 | 0.005 - 0.006 | 0.024 | NA | 39 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.079 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 27 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.3 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 7 C | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 610 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 0.61 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 120 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.3 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.1** | **1.1** | | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.3 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.1 C | | | NO | DLBSL |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.1** | **1.1** | | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1.1** | **1.1** | | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 49 N | | | NO | DLBSL |

Table 2.9
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 370 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5.6 N | 11.4 | NCSSL | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2,200 N | 995 | NCSSL | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2.2 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.28 | J | 0.28 | J | MG/KG | OU5-S2-SS05-01 | 1/8 | 0.36 - 0.43 | 0.28 | | 610 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 0.62 C | 0.358 | NCSSL | NO | DLBSL |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.062 C** | **0.091** | **NCSSL** | **YES** | **DLASL** |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 0.62 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 230 N | 6720 | NCSSL | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.2 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1,200 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 62 C | 39.8 | NCSSL | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 610 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 240 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.062 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4,900 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 230 N | 276 | NCSSL | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 270 N | 44.3 | NCSSL | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.3 C** | **0.032** | **NCSSL** | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 37 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 35 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 0.62 C | 3.26 | NCSSL | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 510 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5.6 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2.0 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 3.0 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 230 N | 59.6 | NCSSL | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 3,700 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 230 N | 286 | NCSSL | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 9.1 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.21 C** | | | **YES** | **DLASL** |

Table 2.9

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 35 C | 6.67 | | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.1** | | **4.1** | | **MG/KG** | **OU5-S2-SS07-01** | **8/8** | **0.87 - 1.1** | **4.1** | **3.9** | **0.39 C** | **26.2** | **NCSSL** | **YES** | **ASL** |
| 7440-39-3 | Barium | 9.1 | J | 106 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 17 - 23 | 106 | 23 | 540 N | 848 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | 0.21 | J | 0.7 | | MG/KG | OU5-S2-SS05-01 | 2/8 | 0.43 - 0.57 | 0.7 | 1.12 | 3.7 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.5 | | 12.8 | | MG/KG | OU5-S2-SS08-01 | 8/8 | 0.87 - 1.1 | 12.8 | 17 | 210 N | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 3.8 | | 33.5 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.26 - 0.34 | 33.5 | 10.5 | 400 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.16 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.034 - 0.038 | 0.16 | 0.13 | 0.61 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | 0.44 | J | 0.44 | J | MG/KG | OU5-S2-SS03-01 | 1/8 | 0.43 - 0.57 | 0.44 | 0.56 | 39 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.12 - 0.19 | 0.19 | 0.82 | 39 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil
2000 Screening value used for acetophenone
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes
Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.10
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 218 S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.47 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane( | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,109 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.78 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 54 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.29 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 385 S | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.23 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.08 N | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 131 S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.3 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.36 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.1 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.0 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.01 | J | 0.01 | J | MG/KG | OU5-S2-SS07-01 | 1/8 | 0.005 - 0.006 | 0.01 | NA | 868 N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 196 S | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.9 S | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,298,278 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.4 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 37 S | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.23 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 17 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.1 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.3 C | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 973 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 N | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.44 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.4 N | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3,078 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 269 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 10 C | | | NO | DLBSL |

Table 2.10
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 609 N | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.7 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 68 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.05 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.003 | J | 0.024 | | MG/KG | OU5-S2-SS05-01 | 6/8 | 0.005 - 0.006 | 0.024 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.11 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 28 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.5 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.88 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 7.3 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.88 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1,315 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.2 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 2.1E+07 N | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 20,586 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.2E+05 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.1E+06 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 4.1E+05 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.1E+05 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2.1E+05 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 7.6 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5.8 C | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.0E+07 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 5,888 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 7.6 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 19,663 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 5,888 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 1.0E+07 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 7.6 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 8.2E+05 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.0E+06 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.0E+06 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 5,888 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 7.6 N | | | NO | DLBSL |

Table 2.10

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1,709 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5.8 C | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 32,774 N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 40,220 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.28 | J | 0.28 | J | MG/KG | OU5-S2-SS05-01 | 1/8 | 0.36 - 0.43 | 0.28 | | 2.1E+07 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 12,121 C | | | NO | DLBSL |
| 50-32-8 | Benzo(a)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1,212 C | | | NO | DLBSL |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 12,121 C | | | NO | DLBSL |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 17,833 N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.2E+05 C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.1E+07 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.0E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.4E+05 N | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.2E+06 C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2,300 S | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 8.2E+06 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1,212 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 407 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.6E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2.1E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 8.2E+06 N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2,253 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.1E+05 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5,496 N | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 11,734 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 2.1E+05 N | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 12,121 C | | | NO | DLBSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 9.3E+06 S | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 5.8 C | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 3.9 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1.1 | 1.1 | | 73,736 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 17,833 N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.2E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 17,833 N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 4.2 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.43** | **0.43** | | **0.3 C** | | | **YES** | **DLASL** |

Table 2.10

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 6.3E+05 C | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1,264 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.43 | 0.43 | | 1.8E+06 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 1.1 | | 4.1 | | MG/KG | OU5-S2-SS07-01 | 8/8 | 0.87 - 1.1 | 4.1 | 3.9 | 588 C | | | NO | BSL |
| 7440-39-3 | Barium | 9.1 | J | 106 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 17 - 23 | 106 | 23.0 | 2.9E+05 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.21 | J | 0.7 | | MG/KG | OU5-S2-SS05-01 | 2/8 | 0.43 - 0.57 | 0.7 | 1.12 | 1,405 N | | | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 4.5 | | 12.8 | | MG/KG | OU5-S2-SS08-01 | 8/8 | 0.87 - 1.1 | 12.8 | 17.0 | 30 N | | | NO | BSL |
| 7439-92-1 | Lead | 3.8 | | 33.5 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.26 - 0.34 | 33.5 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.02 | J | 0.16 | | MG/KG | OU5-S2-SS05-01 | 8/8 | 0.034 - 0.038 | 0.16 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | 0.44 | J | 0.44 | J | MG/KG | OU5-S2-SS03-01 | 1/8 | 0.43 - 0.57 | 0.44 | 0.56 | NA | | | NO | NTX |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.12 - 0.19 | 0.19 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] EPA Soil Screening Guidance, 5/96, Soil Screening Levels for Inhalation of Volatiles/Fugitive Particulates.
Screening value for 2-hexanone based on RfD.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
ND = Not Detected

Table 2.11

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1,200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.41 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 5,600 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.73 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 51 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 12 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 65 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.45 C | 0.00015 | NCSSL | NO | DLBSL |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.005 - 0.006** | **0.006** | **NA** | **0.0069 C** | **0.00000197** | **NCSSL** | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.28 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.34 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.6 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.4 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 730 N | 0.692 | NCSSL | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 79 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.003 | J | 0.012 | J | MG/KG | OU5-S2-SB02-04 | 2/8 | 0.005 - 0.006 | 0.012 | NA | 160 N | 2.81 | NCSSL | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.82 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.39 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 36 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.25 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 15 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.36 N | 0.001 | NCSSL | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.2 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 57 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.1 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.4 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 8.9 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 260 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.1 C | 0.022 | NCSSL | NO | DLBSL |

Table 2.11

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | 0.005 | UJ | 0.005 | J | MG/KG | OU5-S2-SB06-04 OU5-S2-SB05-04 | 1/8 | 0.005 - 0.006 | 0.005 | NA | 1,700 S | 2.24 | NCSSL | NO | BSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.5 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.053 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.01 | | 0.09 | | MG/KG | OU5-S2-SB06-04 | 8/8 | 0.005 - 0.006 | 0.09 | NA | 39 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.079 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 27 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.3 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 6.9 C | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 610 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 0.61 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 120 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6.3 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1** | **1** | | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6.3 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 1.1 C | | | NO | DLBSL |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1** | **1** | | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.91 - 1** | **1** | | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 49 N | | | NO | DLBSL |

Table 2.11
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 370 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 5.6 N | 11.4 | NCSSL | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | 0.43 | | 0.43 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.43 | | 2,200 N | 995 | NCSSL | NO | BSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2.2 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.35 | J | 0.35 | J | MG/KG | OU5-S2-SB05-04 | 1/8 | 0.36 - 0.4 | 0.35 | | 610 N | | | NO | BSL |
| **56-55-3** | **Benzo(a)anthracene** | **1.3** | | **1.3** | | **MG/KG** | **OU5-S2-SB06-04** | **1/8** | **0.36 - 0.4** | **1.3** | | **0.62 C** | **0.358** | **NCSSL** | **YES** | **ASL** |
| **50-32-8** | **Benzo(a)pyrene** | **0.93** | | **0.93** | | **MG/KG** | **OU5-S2-SB06-04** | **1/8** | **0.36 - 0.4** | **0.93** | | **0.062 C** | **0.091** | **NCSSL** | **YES** | **ASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **1.5** | | **1.5** | | **MG/KG** | **OU5-S2-SB06-04** | **1/8** | **0.36 - 0.4** | **1.5** | | **0.62 C** | | | **YES** | **ASL** |
| 191-24-2 | Benzo(g,h,i)perylene | 0.6 | | 0.6 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.6 | | 230 N | 6720 | NCSSL | NO | BSL |
| 207-08-9 | Benzo(k)fluoranthene | 0.41 | | 0.41 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.41 | | 6.2 C | | | NO | BSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 1,200 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 3,100 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 24 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | 1.4 | | 1.4 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.4 | | 62 C | 39.8 | NCSSL | NO | BSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 610 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 240 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.062 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 29 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 4,900 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | 0.29 | J | 2.7 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2.7 | | 230 N | 276 | NCSSL | NO | BSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 270 N | 44.3 | NCSSL | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.3 C** | **0.032** | **NCSSL** | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6.2 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 37 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 35 C | | | NO | DLBSL |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **0.72** | | **0.72** | | **MG/KG** | **OU5-S2-SB06-04** | **1/8** | **0.36 - 0.4** | **0.72** | | **0.62 C** | **3.26** | **NCSSL** | **YES** | **ASL** |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 510 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 5.6 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2.0 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 3.0 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | 0.22 | J | 1.5 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.91 - 1 | 1.5 | | 230 N | 59.6 | NCSSL | NO | BSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 3,700 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | 0.21 | J | 2 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2 | | 230 N | 286 | NCSSL | NO | BSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 9.1 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.21 C** | | | **YES** | **DLASL** |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 35 C | 6.67 | NCSSL | NO | DLBSL |

Table 2.11

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 99 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 0.28 | J | 3.8 | | MG/KG | OU5-S2-SB04-04 | 8/8 | 0.89 - 1.1 | 3.8 | 3.9 | 0.390 C | 26.2 | NCSSL | NO | BKG |
| 7440-39-3 | Barium | 6.8 | J | 33.9 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 18 - 22 | 33.9 | 23.0 | 540 N | 848 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | 0.04 | J | 0.28 | J | MG/KG | OU5-S2-SB05-04 | 3/8 | 0.44 - 0.55 | 0.28 | 1.12 | 3.7 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 2.7 | K | 13.8 | K | MG/KG | OU5-S2-SB02-04 | 8/8 | 0.89 - 1.1 | 13.8 | 17.0 | 210.0 N | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 2.2 | | 22.2 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 0.27 - 0.33 | 22.2 | 10.5 | 400 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.01 | J | 0.12 | | MG/KG | OU5-S2-SB05-04 | 6/8 | 0.033 - 0.039 | 0.12 | 0.13 | 0.61 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | ND | | ND | | MG/KG | | 0/8 | 0.44 - 0.55 | 0.55 | 0.56 | 39.0 N | 12.2 | NCSSL | NO | DLBSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.89 - 1.1 | 1.1 | 0.82 | 39.0 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil
Aceptophenone PRG from 2000 Region IX PRG table.
Screening value for 2-hexanone based on provisional RfD.
2-Chlorophenol used as surrogate for 2-nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
Bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate for 2-methylnaphthlene
Naphthalene used as surrogate for acenaphthylene
Pyrene used as surrogate for benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/
To Be Considered
NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.
J = Estimated Value
K = Biased High
L = Biased Low
C = Carcinogenic
N = Noncarcinogenic
S = Soil Saturation Concentration
M = Ceiling Limit

Table 2.12
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1200 S | 1.67 | NCSSL | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.93 C | 0.000953 | NCSSL | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 5600 S | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.6 C | 0.00334 | NCSSL | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 170 N | 3.82 | NCSSL | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 41 N | 0.0445 | NCSSL | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3000 N | 2.61 | NCSSL | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2 C | 0.00015 | NCSSL | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.028 C | 0.00000197 | NCSSL | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 370 S | 7.27 | NCSSL | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 N | 0.00184 | NCSSL | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.74 C | 0.00288 | NCSSL | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 6.3 N | 23.7 | NCSSL | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 7.9 C | 1.24 | NCSSL | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2700 N | 0.692 | NCSSL | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 36 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 280 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.003 | J | 0.012 | J | MG/KG | OU5-S2-SB02-04 | 2/8 | 0.005 - 0.006 | 0.012 | NA | 600 N | 2.81 | NCSSL | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 C | 0.0056 | NCSSL | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.8 C | 0.0031 | NCSSL | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 220 C | 0.0012 | NCSSL | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 720 N | 4.94 | NCSSL | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.55 C | 0.0027 | NCSSL | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 53 N | 0.438 | NCSSL | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 6.5 C | 13.6 | NCSSL | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 12 N | 0.001 | NCSSL | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.6 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 200 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 140 S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.6 C | 0.0017 | NCSSL | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 31 N | 306 | NCSSL | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 20 C | 0.241 | NCSSL | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9200 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 160 C | 0.916 | NCSSL | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 870 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 21 C | 0.022 | NCSSL | NO | DLBSL |

Table 2.12
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | 0.005 | UJ | 0.005 | J | MG/KG | OU5-S2-SB06-04 OU5-S2-SB05-04 | 1/8 | 0.005 - 0.006 | 0.005 | NA | 1700 S | 2.24 | NCSSL | NO | BSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.4 C | 0.0074 | NCSSL | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 520 N | 7.27 | NCSSL | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.11 C | 0.018 | NCSSL | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.01 | | 0.09 | | MG/KG | OU5-S2-SB06-04 | 8/8 | 0.005 - 0.006 | 0.09 | NA | 2000 N | 31.5 | NCSSL | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.75 C | 0.0000952 | NCSSL | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 420 N | 4.96 | NCSSL | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 15 N | 0.35 | NCSSL | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 23 N | 0.38 | NCSSL | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 350 S | 8.91 | NCSSL | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 7.4 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 6,200 N | 3.94 | NCSSL | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6.2 N | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 180 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 1,200 N | 1.15 | NCSSL | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 120 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 120 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 62 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 24 N | 0.0012 | NCSSL | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 19 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 3,100 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 1.8 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 24 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 3.8 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 1.8 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 3,100 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 24 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 250 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 310 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 310 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 1.8 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | | 700 N | | | NO | DLBSL |

Table 2.12
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2,900 N | 8.16 | NCSSL | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 19.0 N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.16 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | 0.43 | | 0.43 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.43 | | 100,000 N | 995 | NCSSL | NO | BSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 7.8 C | 0.024 | NCSSL | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.35 | J | 0.35 | J | MG/KG | OU5-S2-SB05-04 | 1/8 | 0.36 - 0.4 | 0.35 | | 6,200 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | 1.3 | | 1.3 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.3 | | 2.1 C | 0.358 | NCSSL | NO | BSL |
| **50-32-8** | **Benzo(a)pyrene** | **0.93** | | **0.93** | | **MG/KG** | **OU5-S2-SB06-04** | **1/8** | **0.36 - 0.4** | **0.93** | | **0.21 C** | **0.091** | **NCSSL** | **YES** | **ASL** |
| 205-99-2 | Benzo(b)fluoranthene | 1.5 | | 1.5 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.5 | | 2.1 C | | | NO | BSL |
| 191-24-2 | Benzo(g,h,i)perylene | 0.6 | | 0.6 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.6 | | 2,900 N | 6720 | NCSSL | NO | BSL |
| 207-08-9 | Benzo(k)fluoranthene | 0.41 | | 0.41 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.41 | | 21 C | | | NO | BSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 100,000 N | 27.8 | NCSSL | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 100,000 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 86 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | 1.4 | | 1.4 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.4 | | 210 C | 39.8 | NCSSL | NO | BSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 6,200 N | 24.8 | NCSSL | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2,500 N | 1.00E+07 | NCSSL | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.21 C** | **0.168** | **NCSSL** | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 310 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 100,000 N | 28.2 | NCSSL | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 100,000 M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | 0.29 | J | 2.7 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2.7 | | 2,200 N | 276 | NCSSL | NO | BSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 2,600 N | 44.3 | NCSSL | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 1.1 C | 0.032 | NCSSL | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 22 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 370 N | 200 | NCSSL | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 120 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.72 | | 0.72 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.72 | | 2.1 C | 3.26 | NCSSL | NO | BSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 1,800 C | 0.182 | NCSSL | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 19 N | 0.585 | NCSSL | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 10 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 9 C | 0.023 | NCSSL | NO | DLBSL |
| 85-01-8 | Phenanthrene | 0.22 | J | 1.5 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.91 - 1 | 1.5 | | 2,900 N | 59.6 | NCSSL | NO | BSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 100,000 N | 1.75 | NCSSL | NO | DLBSL |
| 129-00-0 | Pyrene | 0.21 | J | 2 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2 | | 2,900 N | 286 | NCSSL | NO | BSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | NA | | | NO | DLBSL |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 0.55 C | | | NO | DLBSL |

Table 2.12

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 120 C | 6.67 | NCSSL | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | | **0.25 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | | 350 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 0.28 | J | 3.8 | | MG/KG | OU5-S2-SB04-04 | 8/8 | 0.89 - 1.1 | 3.8 | 3.9 | 1.6 C | 26.2 | NCSSL | NO | BKG |
| 7440-39-3 | Barium | 6.8 | J | 33.9 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 18 - 22 | 33.9 | 23.0 | 6,700 N | 848 | NCSSL | NO | BSL |
| 7440-43-9 | Cadmium | 0.04 | J | 0.28 | J | MG/KG | OU5-S2-SB05-04 | 3/8 | 0.44 - 0.55 | 0.28 | 1.12 | 45 N | 2.72 | NCSSL | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 2.7 | K | 13.8 | K | MG/KG | OU5-S2-SB02-04 | 8/8 | 0.89 - 1.1 | 13.8 | 17.0 | 450 C | 27.2 | NCSSL | NO | BSL |
| 7439-92-1 | Lead | 2.2 | | 22.2 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 0.27 - 0.33 | 22.2 | 10.5 | 75 N | 270 | NCSSL | NO | BSL |
| 7439-97-6 | Mercury | 0.01 | J | 0.12 | | MG/KG | OU5-S2-SB05-04 | 6/8 | 0.033 - 0.039 | 0.12 | 0.13 | 6.2 N | 0.0154 | NCSSL | NO | BSL |
| 7782-49-2 | Selenium | ND | | ND | | MG/KG | | 1/8 | 0.44 - 0.55 | 0.55 | 0.56 | 510 N | 12.2 | NCSSL | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 1/8 | 0.89 - 1.1 | 1.1 | 0.82 | 510 N | 0.223 | NCSSL | NO | DLBSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Industrial Soil

Aceptophenone PRG from 2000 Region IX PRG table.

Screening value for 2-hexanone based on provisional RfD.

2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene

Naphthalene used as surrogate for2-Methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

[4] Rationale Co Pyrene used as surrogate for Benzo(g,h,i)perylene

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.

ND = Not detected

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Noncarcinogenic

S = Soil Saturation Concentration

M = Ceiling Limit

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 218 S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.47 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,109 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.78 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 54 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.29 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 385 S | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.23 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.08 N | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 131 S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.3 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.36 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.1 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.0 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 868 N | | | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 11 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.003 | J | 0.012 | J | MG/KG | OU5-S2-SB02-04 | 2/8 | 0.005 - 0.006 | 0.012 | NA | 196 S | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.9 S | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.3E+06 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.4 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 37 S | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.23 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 17 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.1 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.3 C | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 62 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 973 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 N | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.44 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 9.4 N | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3,078 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 269 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 10 C | | | NO | DLBSL |

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | 0.005 | UJ | 0.005 | J | MG/KG | OU5-S2-SB06-04 OU5-S2-SB05-04 | 1/8 | 0.005 - 0.006 | 0.005 | NA | 609 N | | | NO | BSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.7 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 68 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.05 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.01 | | 0.09 | | MG/KG | OU5-S2-SB06-04 | 8/8 | 0.005 - 0.006 | 0.09 | NA | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.11 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 28 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4.5 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.88 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 7.3 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.88 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1,315 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 4.2 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 2.1E+07 N | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 20,586 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 617,580 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 4.1E+06 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 411,720 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 411,720 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 205,860 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2,300 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 7.6 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 5.8 C | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.0E+07 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 5,888 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 7.6 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 19,663 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 5,888 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 1.0E+07 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 7.6 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 823,440 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.0E+06 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.0E+06 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 5,888 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 7.6 N | | | NO | DLBSL |

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1,709 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 5.8 C | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | **NA** | **0.049 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | 0.43 | | 0.43 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.43 | NA | 32,774 N | | | NO | BSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 40,220 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.35 | J | 0.35 | J | MG/KG | OU5-S2-SB05-04 | 1/8 | 0.36 - 0.4 | 0.35 | NA | 2.1E+07 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | 1.3 | | 1.3 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.3 | NA | 12,121 C | | | NO | BSL |
| 50-32-8 | Benzo(a)pyrene | 0.93 | | 0.93 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.93 | NA | 1,212 C | | | NO | BSL |
| 205-99-2 | Benzo(b)fluoranthene | 1.5 | | 1.5 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.5 | NA | 12,121 C | | | NO | BSL |
| 191-24-2 | Benzo(g,h,i)perylene | 0.6 | | 0.6 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.6 | NA | 17,833 N | | | NO | BSL |
| 207-08-9 | Benzo(k)fluoranthene | 0.41 | | 0.41 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.41 | NA | 121,211 C | | | NO | BSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 4.1E+07 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.0E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 442,418 N | | | NO | DLBSL |
| 218-01-9 | Chrysene | 1.4 | | 1.4 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.4 | NA | 1.2E+06 C | | | NO | BSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2,300 S | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 8.2E+06 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1,212 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 407 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.6E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2.1E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | 0.29 | J | 2.7 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2.7 | NA | 8.2E+06 N | | | NO | BSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2,253 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 411,720 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 5,496 N | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 11,734 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 205,860 N | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.72 | | 0.72 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.72 | NA | 12,121 C | | | NO | BSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 9.3E+06 S | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 5.8 C | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3.9 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 73,736 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | 0.22 | J | 1.5 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.91 - 1 | 1.5 | NA | 17,833 N | | | NO | BSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.2E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | 0.21 | J | 2 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2 | NA | 17,833 N | | | NO | BSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 4.2 C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | **NA** | **0.3 C** | | | **YES** | **DLASL** |

Table 2.13
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 632,026 C | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1,264 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.8E+06 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 0.28 | J | 3.8 | | MG/KG | OU5-S2-SB04-04 | 8/8 | 0.89 - 1.1 | 3.8 | 3.9 | 588 C | | | NO | BSL |
| 7440-39-3 | Barium | 6.8 | J | 33.9 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 18 - 22 | 33.9 | 23.0 | 294,086 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.04 | J | 0.28 | J | MG/KG | OU5-S2-SB05-04 | 3/8 | 0.44 - 0.55 | 0.28 | 1.12 | 1,405 N | | | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 2.7 | K | 13.8 | K | MG/KG | OU5-S2-SB02-04 | 8/8 | 0.89 - 1.1 | 13.8 | 17.0 | 30 N | | | NO | BSL |
| 7439-92-1 | Lead | 2.2 | | 22.2 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 0.27 - 0.33 | 22.2 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.01 | J | 0.12 | | MG/KG | OU5-S2-SB05-04 | 6/8 | 0.033 - 0.039 | 0.12 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | ND | | ND | | MG/KG | | 0/8 | 0.44 - 0.55 | 0.55 | 0.56 | NA | | | NO | NTX |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.89 - 1.1 | 1.1 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.
[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.
[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil Inhalation
Screening value for 2-hexanone based on RfD.
Aceptophenone PRG from 2000 Region IX PRG table.
2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol
2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol
2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene
bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane
1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene
1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene
Naphthalene used as surrogate fo r2-Methylnaphthlene
Naphthalene used as surrogate for Acenaphthylene
Pyrene used as surrogate for Benzo(g,h,i)perylene
[4] Rationale Codes

Selection Reason:
Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason:
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
Below Background (BKG)
Detection Limit Below Screening Levels (DLBSL)
Detection Limit Below Background (DLBKG)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
S = Soil Saturation Concentration
ND = Not Detected

Table 2.14

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 712 N | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.99 C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 68,909 N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.7 C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 177 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 417 C | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1,257 N | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.7 N | | | NO | DLBSL |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.17 C | | | NO | DLBSL |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 421 N | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.62 C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.76 C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 6.7 N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 8.4 C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 28,356 N | | | NO | DLBSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 37 N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2,939 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 0.003 | J | 0.012 | J | MG/KG | OU5-S2-SB02-04 | 2/8 | 0.005 - 0.006 | 0.012 | NA | 641 N | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.9 C | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 4,890,735 C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.3 N | | | NO | DLBSL |
| 124-38-9 | Carbon disulfide | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 122 N | | | NO | DLBSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.6 C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 54 N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 6.5 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.0 C | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.7 C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 202 N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3,180 N | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 2.8 C | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 30.9 N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 20 C | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 10,054 N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 37 C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 880 N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 22 C | | | NO | DLBSL |

Table 2.14
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | 0.005 | UJ | 0.005 | J | MG/KG | OU5-S2-SB06-04 OU5-S2-SB05-04 | 1/8 | 0.005 - 0.006 | 0.005 | NA | 1,989 N | | | NO | BSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 3.6 C | | | NO | DLBSL |
| 108-88-3 | Toluene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 224 N | | | NO | DLBSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.12 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.01 | | 0.09 | | MG/KG | OU5-S2-SB06-04 | 8/8 | 0.005 - 0.006 | 0.09 | NA | 128 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 0.93 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 90 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 15 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.9 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 24 N | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/8 | 0.005 - 0.006 | 0.006 | NA | 1.9 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 4,297 N | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 6.7E+08 C | | | NO | DLBSL |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 268,990 C | | | NO | DLBSL |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2.0E+06 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.3E+07 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 1.3E+06 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.3E+06 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 672,476 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3,275 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 25 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 18.9 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3.4E+07 N | | | NO | DLBSL |
| 88-74-4 | 2-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 1.9E+04 N | | | NO | DLBSL |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 25 N | | | NO | DLBSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 41,843 C | | | NO | DLBSL |
| 99-09-2 | 3-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 19,233 N | | | NO | DLBSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 3.4E+07 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 25 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2,689,904 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3,362,380 C | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3.4E+06 N | | | NO | DLBSL |
| 100-01-6 | 4-Nitroaniline | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 19,233 N | | | NO | DLBSL |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/8 | 0.91 - 1 | 1 | NA | 25 | | | NO | DLBSL |

Table 2.14

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 5,582 N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 18.9 N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/8** | **0.36 - 0.4** | **0.4** | **NA** | **0.049** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | 0.43 | | 0.43 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.43 | NA | 107,061 N | | | NO | BSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 85,588 C | | | NO | DLBSL |
| 100-52-7 | Benzaldehyde | 0.35 | J | 0.35 | J | MG/KG | OU5-S2-SB05-04 | 1/8 | 0.36 - 0.4 | 0.35 | NA | 6.7E+07 N | | | NO | BSL |
| 56-55-3 | Benzo(a)anthracene | 1.3 | | 1.3 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.3 | NA | 25,794 C | | | NO | BSL |
| 50-32-8 | Benzo(a)pyrene | 0.93 | | 0.93 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.93 | NA | 2,579 C | | | NO | BSL |
| 205-99-2 | Benzo(b)fluoranthene | 1.5 | | 1.5 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.5 | NA | 25,794 C | | | NO | BSL |
| 191-24-2 | Benzo(g,h,i)perylene | 0.6 | | 0.6 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.6 | NA | 58,256 N | | | NO | BSL |
| 207-08-9 | Benzo(k)fluoranthene | 0.41 | | 0.41 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.41 | NA | 257,936 C | | | NO | BSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1.3E+08 N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3.4E+08 N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 941,466 C | | | NO | DLBSL |
| 218-01-9 | Chrysene | 1.4 | | 1.4 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 1.4 | NA | 482,803 C | | | NO | BSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 6.7E+07 N | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2.7E+07 N | | | NO | DLBSL |
| 53-70-3 | Dibenz(a,h)anthracene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2,579 C | | | NO | DLBSL |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1,330 N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 5.4E+08 N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 6.7E+09 N | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | 0.29 | J | 2.7 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2.7 | NA | 2.7E+07 N | | | NO | BSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 7.4E+03 N | | | NO | DLBSL |
| 118-74-1 | Hexachlorobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 11,695 C | | | NO | DLBSL |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 241,402 C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 38,331 N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 1,344,952 C | | | NO | DLBSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.72 | | 0.72 | | MG/KG | OU5-S2-SB06-04 | 1/8 | 0.36 - 0.4 | 0.72 | NA | 25,794 C | | | NO | BSL |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2.0E+07 C | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 18.9 N | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 13 N | | | NO | DLBSL |
| 87-86-5 | Pentachlorophenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 156,911 C | | | NO | DLBSL |
| 85-01-8 | Phenanthrene | 0.22 | J | 1.5 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.91 - 1 | 1.5 | NA | 58,256 N | | | NO | BSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 4.0E+08 N | | | NO | DLBSL |
| 129-00-0 | Pyrene | 0.21 | J | 2 | | MG/KG | OU5-S2-SB06-04 | 2/8 | 0.36 - 0.4 | 2 | NA | 58,256 N | | | NO | BSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 9.0 C | | | NO | DLBSL |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 0.7 C | | | NO | DLBSL |

Table 2.14

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 134,495 N | | | NO | DLBSL |
| 621-64-7 | n-Nitroso-di-n-propylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 2,690 C | | | NO | DLBSL |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/8 | 0.36 - 0.4 | 0.4 | NA | 3,842,720 C | | | NO | DLBSL |
| 7440-38-2 | Arsenic | 0.28 | J | 3.8 | | MG/KG | OU5-S2-SB04-04 | 8/8 | 0.89 - 1.1 | 3.8 | 3.9 | 1251 C | | | NO | BSL |
| 7440-39-3 | Barium | 6.8 | J | 33.9 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 18 - 22 | 33.9 | 23.0 | 96,068 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.04 | J | 0.28 | J | MG/KG | OU5-S2-SB05-04 | 3/8 | 0.44 - 0.55 | 0.28 | 1.12 | 126 N | | | NO | BSL |
| 7440-47-3 | Chromium (assumed VI) | 2.7 | K | 13.8 | K | MG/KG | OU5-S2-SB02-04 | 8/8 | 0.89 - 1.1 | 13.8 | 17.0 | 64 C | | | NO | BSL |
| 7439-92-1 | Lead | 2.2 | | 22.2 | | MG/KG | OU5-S2-SB05-04 | 8/8 | 0.27 - 0.33 | 22.2 | 10.5 | NA | | | NO | NTX |
| 7439-97-6 | Mercury | 0.01 | J | 0.12 | | MG/KG | OU5-S2-SB05-04 | 6/8 | 0.033 - 0.039 | 0.12 | 0.13 | NA | | | NO | NTX |
| 7782-49-2 | Selenium | ND | | ND | | MG/KG | | 0/8 | 0.44 - 0.55 | 0.55 | 0.56 | NA | | | NO | BSL |
| 7440-22-4 | Silver | ND | | ND | | MG/KG | | 0/8 | 0.89 - 1.1 | 1.1 | 0.82 | NA | | | NO | NTX |

[1] Minimum/Maximum detected concentrations.

[2] Background values derived from statistical analysis. Two times arithmetic mean site-wide background, Appendix B.1 of RI/FS guidance.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Industrial Soil-Air

Aceptophenone PRG from 2000 Region IX PRG table.

Screening value for 2-hexanone based on RfD.

2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene

Naphthalene used as surrogate for2-Methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

NCSSL = North Carolina Soil Screening Concentration Level Rev. 9/13/1999.

ND = Not detected

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Noncarcinogenic

S = Soil Saturation Concentration

M = Ceiling Limit

Table 2.15
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 320 N | | | NO | DLBSL |
| **79-34-5** | **1,1,2,2-Tetrachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **10.8 W** | **0.17** | **AWQS** | **YES** | **DLASL** |
| **79-00-5** | **1,1,2-Trichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.59 A** | | | **YES** | **DLASL** |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 81 N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 330 A | | | NO | DLASL |
| 563-58-6 | 1,1-Dichloropropene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | NA | | | NO | NTX |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 35 A | | | NO | DLBSL |
| **96-12-8** | **1,2-Dibromo-3-chloropropane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.048 C** | | | **YES** | **DLASL** |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.00076 C** | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 420 A | | | NO | DLBSL |
| **107-06-2** | **1,2-Dichloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.38 A** | | | **YES** | **DLASL** |
| **78-87-5** | **1,2-Dichloropropane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.5 A** | | | **YES** | **DLASL** |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 320 A | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 63 A | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 190 N | | | NO | DLBSL |
| **591-78-6** | **2-Hexanone** | **ND** | | **ND** | | **UG/L** | | **0/5** | **4 - 4** | **4** | | **1 N** | | | **YES** | **DLASL** |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | UG/L | | 0/5 | 3 - 3 | 3 | | 16 N | | | NO | DLBSL |
| 67-64-1 | Acetone | 4 | J | 24 | | UG/L | OU5-S2-SW03 | 3/5 | 5 - 5 | 24 | | 61 N | | | NO | BSL |
| 71-43-2 | Benzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 71.4 W | 2.2 | AWQS | NO | DLBSL |
| 75-27-4 | Bromochloromethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | NA | | | NO | NTX |
| **75-25-2** | **Bromodichloromethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.55 A** | | | **YES** | **DLASL** |
| 74-83-9 | Bromoform | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 4.3 A | | | NO | DLBSL |
| 75-15-0 | Bromomethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 47 A | | | NO | DLBSL |
| **56-23-5** | **Carbon tetrachloride** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **4.42 W** | **0.23** | **AWQS** | **YES** | **DLASL** |
| 108-90-7 | Chlorobenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 130 A | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 4.6 C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 5.7 A | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 1.5 A | | | NO | DLBSL |
| **124-48-1** | **Dibromochloromethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.4 A** | | | **YES** | **DLASL** |
| 100-41-4 | Ethylbenzene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 530 A | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 4.6 A | | | NO | DLBSL |

Table 2.15

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 160 N | | | NO | DLBSL |
| **127-18-4** | **Tetrachloroethene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.69 A** | | | **YES** | **DLASL** |
| 108-88-3 | Toluene | 0.6 | J | 0.6 | J | UG/L | OU5-S2-SW02 | 1/5 | 1 - 1 | 0.6 | | 1300 A | | | NO | BSL |
| **75-01-4** | **Vinyl chloride** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **525 W** | **0.025** | **AWQS** | **YES** | **DLASL** |
| 1330-20-7 | Xylene, total | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 21 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 6.1 N | | | NO | DLBSL |
| **6923-20-2** | **cis-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.34 A** | | | **YES** | **DLASL** |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | UG/L | | 0/5 | 1 - 1 | 1 | | 140 A | | | NO | DLBSL |
| **10061-02-6** | **trans-1,3-Dichloropropene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **1 - 1** | **1** | | **0.34 A** | | | **YES** | **DLASL** |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 5 | | 5 | | UG/L | OU5-S2-SW01 | 1/5 | 5 - 5 | 5 | | 1400 A | | | NO | BSL |
| 95-95-4 | 2,4,5-Trichlorophenol | 20 | | 20 | | UG/L | OU5-S2-SW01 | 1/5 | 20 - 20 | 20 | | 1800 A | | | NO | BSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **1.4 A** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 77 A | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 380 A | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | UG/L | | 0/5 | 20 - 20 | 20 | | 69 A | | | NO | DLBSL |
| **121-14-2** | **2,4-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.11 A** | | | **YES** | **DLASL** |
| **606-20-2** | **2,6-Dinitrotoluene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **3.6 N** | | | **YES** | **DLASL** |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 1000 A | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 81 A | | | NO | DLBSL |
| **91-57-6** | **2-Methylnaphthalene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.62 N** | | | **YES** | **DLASL** |
| 95-48-7 | 2-Methylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 180 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | | **0.1 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 81 A | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **UG/L** | | **0/1** | **5 - 5** | **5** | | **0.021 A** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | | **0.1 N** | | | **YES** | **DLASL** |
| **534-52-1** | **4,6-Dinitro-2-methylphenol** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | | **13 A** | | | **YES** | **DLASL** |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 3000 A | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 15 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | NA | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 18 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **UG/L** | | **0/5** | **20 - 20** | **20** | | **0.1 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | UG/L | | 0/5 | 20 - 20 | 20 | | 81 A | | | NO | DLBSL |

Table 2.15

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 670 A | | | NO | DLBSL |
| **208-96-8** | **Acenaphthylene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.62 N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 8300 A | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 830 A | | | NO | DLBSL |
| **207-08-9** | **Benzo(k)fluoranthene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 1500 A | | | NO | DLBSL |
| **218-01-9** | **Chrysene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 2000 A | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 150 N | | | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| **132-64-9** | **Dibenzofuran** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **2.4 N** | | | **YES** | **DLASL** |
| 84-66-2 | Diethylphthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 17000 A | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 270000 A | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 130 A | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 1100 A | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.00028 A** | | | **YES** | **DLASL** |
| **87-68-3** | **Hexachlorobutadiene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **49.7 W** | **0.44** | **AWQS** | **YES** | **DLASL** |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 40 A | | | NO | DLBSL |
| **67-72-1** | **Hexachloroethane** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **1.4 A** | | | **YES** | **DLASL** |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.0311 W** | **0.0038** | **AWQS** | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 35 A | | | NO | DLBSL |
| **91-20-3** | **Naphthalene** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.62 N** | | | **YES** | **DLASL** |
| 98-95-3 | Nitrobenzene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 17 A | | | NO | DLBSL |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.27 A** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 830 A | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 21000 A | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 830 A | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | NA | | | NO | NTX |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.03 A** | | | **YES** | **DLASL** |

Table 2.15

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117-81-7** | **bis(2-Ethylhexyl)phthalate** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **1,2 A** | | | **YES** | **DLASL** |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **UG/L** | | **0/5** | **5 - 5** | **5** | | **0.005 A** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 3.3 A | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **2.4** | | **7.6** | | **UG/L** | **OU5-S2-SW03** | **3/5** | **10 - 10** | **7.6** | | **10 W** | **0.018** | **AWQS** | **YES** | **ASL** |
| 7440-39-3 | Barium | 29.7 | | 66.4 | | UG/L | OU5-S2-SW03 | 5/5 | 200 - 200 | 66.4 | | 1,000 A | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.43 | J | 0.43 | J | UG/L | OU5-S2-SW05 | 1/5 | 5 - 5 | 0.43 | | 2 N | | | NO | BSL |
| 7440-47-3 | Chromium | 0.92 | J | 9.3 | J | UG/L | OU5-S2-SW03 | 4/5 | 10 - 10 | 9.3 | | 11 N | | | NO | BSL |
| 7439-92-1 | Lead | 2.8 | J | 3 | | UG/L | OU5-S2-SW01 | 2/5 | 3 - 3 | 3 | | 15 M | | | NO | BSL |
| 7439-97-6 | Mercury | ND | | ND | | UG/L | | 0/5 | .01 - .05 | 0.05 | | 1.1 N | | | NO | DLBSL |
| 7782-49-2 | Selenium | ND | | ND | | UG/L | | 0/5 | 5 - 5 | 5 | | 170 A | | | NO | DLBSL |
| 7440-22-4 | Silver | 2 | J | 2 | | UG/L | OU5-S2-SW05 | 1/5 | 10 - 10 | 2 | | 18 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values not available.

[3] Used both North Carolina WQS for Human Health and Federal Ambient Water Quality Criteria, Consumption of Water and Organisms.
If both values available, Federal AWQS value included in ARAR column, but used as a screening value.
If neither value available, used USEPA Region IX Tap Water PRG (non-cancer values divided by 10 to account for exposure to multiple constituents)
Screening value for 2-hexanone based on provisional RfD.
2-Chlorophenol used as surrogate for 2-nitrophenol, 4-chloro-3-methylphenol
2-Nitroaniline used as surrogate for 3-nitroaniline, 4-nitroaniline
Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether
Pyrene used as surrogate for phenanthrene and benzo(g,h,i) perylene
1,3-Dichloropropene used as surrogate for cis-1,2-dichloropropene and trans-1,2-dichloropropene
Naphthalene used as surrogate for 2-methylnaphthalene and acenaphthylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
Detection Limit Below Screening Level (DLBSL)

SQL = Sample Quantification Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
WQS = North Carolina Water Quality Standard, Human Health
AWQS = Federal Ambient Water Quality Criteria, Consumption of Wat
PRG = USEPA Region IX Preliminary Remediation Goals
ND = Not detected
J = Estimated Value
K = Biased High
L = Biased Low
W = North Carolina WQS
A = Federal AWQS
C = Carcinogenic PRG
N = Non-Carcinogenic PRG
M = Action level for lead from Federal Drinking Water MCLs

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 1,200 | S | | | NO | DLBSL |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.41 | C | | | NO | DLBSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113) | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 5,600 | N | | | NO | DLBSL |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.73 | C | | | NO | DLBSL |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 51 | N | | | NO | DLBSL |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 12 | N | | | NO | DLBSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 65 | N | | | NO | DLBSL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.45 | C | | | NO | DLBSL |
| **106-93-4** | **1,2-Dibromoethane** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.006 - .044** | **0.044** | | **0.0069** | C | | | **YES** | **DLASL** |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 370 | S | | | NO | DLBSL |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.28 | C | | | NO | DLBSL |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.34 | C | | | NO | DLBSL |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 1.6 | N | | | NO | DLBSL |
| 106-37-6 | 1,4-Dichlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 3.4 | C | | | NO | DLBSL |
| 78-93-3 | 2-Butanone | 0.11 | J | 0.11 | J | MG/KG | OU5-S2-SD04-00 | 1/5 | .006 - .044 | 0.11 | | 730 | N | | | NO | BSL |
| 591-78-6 | 2-Hexanone | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 11 | N | | | NO | DLBSL |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 79 | N | | | NO | DLBSL |
| 67-64-1 | Acetone | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 160 | N | | | NO | DLBSL |
| 71-43-2 | Benzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.6 | C | | | NO | DLBSL |
| 75-27-4 | Bromodichloromethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.82 | C | | | NO | DLBSL |
| 75-25-2 | Bromoform | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 62 | C | | | NO | DLBSL |
| 74-83-9 | Bromomethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.39 | N | | | NO | DLBSL |
| 75-15-0 | Carbon disulfide | 0.03 | J | 0.03 | J | MG/KG | OU5-S2-SD05-00 | 1/5 | .006 - .044 | 0.03 | | 36 | N | | | NO | BSL |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.25 | C | | | NO | DLBSL |
| 108-90-7 | Chlorobenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 15 | N | | | NO | DLBSL |
| 75-00-3 | Chloroethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 3 | C | | | NO | DLBSL |
| 67-66-3 | Chloroform | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.36 | N | | | NO | DLBSL |
| 74-87-3 | Chloromethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 1.2 | C | | | NO | DLBSL |
| 98-82-8 | Cumene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 57 | N | | | NO | DLBSL |
| 110-82-7 | Cyclohexane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 140 | S | | | NO | DLBSL |
| 124-48-1 | Dibromochloromethane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 1.1 | C | | | NO | DLBSL |
| 75-71-8 | Dichlorodifluoromethane(Freon-12) | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 9.4 | N | | | NO | DLBSL |
| 100-41-4 | Ethylbenzene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 8.9 | C | | | NO | DLBSL |
| 79-20-9 | Methyl acetate | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 2,200 | N | | | NO | DLBSL |
| 1634-04-4 | Methyl-tert-butyl ether (MTBE) | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 62 | C | | | NO | DLBSL |
| 108-87-2 | Methylcyclohexane | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 260 | N | | | NO | DLBSL |
| 75-09-2 | Methylene chloride | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 9.1 | C | | | NO | DLBSL |

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-42-5 | Styrene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 1,700 S | | | NO | DLBSL |
| 127-18-4 | Tetrachloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 1.5 C | | | NO | DLBSL |
| 108-88-3 | Toluene | 0.096 | | 0.096 | | MG/KG | OU5-S2-SD01-00 | 1/5 | .006 - .044 | 0.096 | | 520 N | | | NO | BSL |
| 79-01-6 | Trichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.053 C | | | NO | DLBSL |
| 75-69-4 | Trichlorofluoromethane(Freon-11) | 0.01 | | 0.11 | J | MG/KG | OU5-S2-SD05-00 | 4/5 | .006 - .044 | 0.11 | | 39 N | | | NO | BSL |
| 75-01-4 | Vinyl chloride | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.079 C | | | NO | DLBSL |
| 1330-20-7 | Xylene, total | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 27 N | | | NO | DLBSL |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 4.3 N | | | NO | DLBSL |
| 6923-20-2 | cis-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.8 C | | | NO | DLBSL |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 6.9 C | | | NO | DLBSL |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | MG/KG | | 0/5 | .006 - .044 | 0.044 | | 0.8 C | | | NO | DLBSL |
| 92-52-4 | 1,1-Biphenyl | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 350 S | | | NO | DLBSL |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 2.9 C | | | NO | DLBSL |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | | 610 N | | | NO | DLBSL |
| **88-06-2** | **2,4,6-Trichlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.61 N** | | | **YES** | **DLASL** |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 18 N | | | NO | DLBSL |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 120 N | | | NO | DLBSL |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | | 12 N | | | NO | DLBSL |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 12 N | | | NO | DLBSL |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 6.1 N | | | NO | DLBSL |
| 91-58-7 | 2-Chloronaphthalene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 490 N | | | NO | DLBSL |
| 95-57-8 | 2-Chlorophenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 6.3 N | | | NO | DLBSL |
| 91-57-6 | 2-Methylnaphthalene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 5.6 N | | | NO | DLBSL |
| 95-48-7 | 2-Methylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 310 N | | | NO | DLBSL |
| **88-74-4** | **2-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | | **0.17 N** | | | **YES** | **DLASL** |
| 88-75-5 | 2-Nitrophenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 6.3 N | | | NO | DLBSL |
| **91-94-1** | **3,3'-Dichlorobenzidine** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **1.1 C** | | | **YES** | **DLASL** |
| **99-09-2** | **3-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | | **0.17 N** | | | **YES** | **DLASL** |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | | 310 N | | | NO | DLBSL |
| 101-55-3 | 4-Bromophenyl-phenylether | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | NA | | | NO | NTX |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 6.3 N | | | NO | DLBSL |
| 106-47-8 | 4-Chloroaniline | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 24 N | | | NO | DLBSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 31 N | | | NO | DLBSL |
| 106-44-5 | 4-Methylphenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 31 N | | | NO | DLBSL |
| **100-01-6** | **4-Nitroaniline** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | | **0.17 N** | | | **YES** | **DLASL** |
| 100-02-7 | 4-Nitrophenol | ND | | ND | | MG/KG | | 0/5 | 1.1 - 4.4 | 4.4 | | 49 N | | | NO | DLBSL |

Table 2.16
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 370 | N | | | NO | DLBSL |
| 208-96-8 | Acenaphthylene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 5.6 | N | | | NO | DLBSL |
| **98-86-2** | **Acetophenone** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.049** | **N** | | | **YES** | **DLASL** |
| 120-12-7 | Anthracene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 2,200 | N | | | NO | DLBSL |
| 1912-24-9 | Atrazine | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 2.2 | C | | | NO | DLASL |
| 100-52-7 | Benzaldehyde | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 610 | N | | | NO | DLBSL |
| **56-55-3** | **Benzo(a)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.62** | **C** | | | **YES** | **DLASL** |
| **50-32-8** | **Benzo(a)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.062** | **C** | | | **YES** | **DLASL** |
| **205-99-2** | **Benzo(b)fluoranthene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.62** | **C** | | | **YES** | **DLASL** |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 230 | N | | | NO | DLBSL |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 6.2 | C | | | NO | DLBSL |
| 85-68-7 | Butylbenzylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 1,200 | N | | | NO | DLBSL |
| 105-60-2 | Caprolactam | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 3,100 | N | | | NO | DLBSL |
| 86-74-8 | Carbazole | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 24 | C | | | NO | DLBSL |
| 218-01-9 | Chrysene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 62 | C | | | NO | DLBSL |
| 84-74-2 | Di-n-butylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 610 | N | | | NO | DLBSL |
| 117-84-0 | Di-n-octylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 240 | N | | | NO | DLBSL |
| **53-70-3** | **Dibenz(a,h)anthracene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.062** | **C** | | | **YES** | **DLASL** |
| 132-64-9 | Dibenzofuran | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 29 | N | | | NO | DLBSL |
| 84-66-2 | Diethylphthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 4,900 | N | | | NO | DLBSL |
| 131-11-3 | Dimethyl phthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 100,000 | M | | | NO | DLBSL |
| 206-44-0 | Fluoranthene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 230 | N | | | NO | DLBSL |
| 86-73-7 | Fluorene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 270 | N | | | NO | DLBSL |
| **118-74-1** | **Hexachlorobenzene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.3** | **C** | | | **YES** | **DLASL** |
| 87-68-3 | Hexachlorobutadiene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 6.2 | C | | | NO | DLBSL |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 37 | N | | | NO | DLBSL |
| 67-72-1 | Hexachloroethane | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 35 | C | | | NO | DLBSL |
| **193-39-5** | **Indeno(1,2,3-cd)pyrene** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.62** | **C** | | | **YES** | **DLASL** |
| 78-59-1 | Isophorone | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 510 | C | | | NO | DLBSL |
| 91-20-3 | Naphthalene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 5.6 | N | | | NO | DLBSL |
| 98-95-3 | Nitrobenzene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 2 | N | | | NO | DLASL |
| **87-86-5** | **Pentachlorophenol** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **1.1 - 4.4** | **4.4** | | **3** | **C** | | | **YES** | **DLASL** |
| 85-01-8 | Phenanthrene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 230 | N | | | NO | DLBSL |
| 108-95-2 | Phenol | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 3,700 | N | | | NO | DLBSL |
| 129-00-0 | Pyrene | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 230 | N | | | NO | DLBSL |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 3 | C | | | NO | DLBSL |
| **111-44-4** | **bis(2-Chloroethyl)ether** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.21** | **C** | | | **YES** | **DLASL** |

Table 2.16

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 2, OU-5, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| CAS Number | Chemical | Minimum [1] Concentration | Minimum Qualifier | Maximum [1] Concentration | Maximum Qualifier | Units | Location of Maximum Concentration | Detection Frequency | Range of Detection Limits | Concentration Used for Screening | Background [2] Value | Screening [3] Toxicity Value | Potential ARAR/TBC Value | Potential ARAR/TBC Source | COPC Flag | Rationale for [4] Contaminant Deletion or Selection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 35 C | | | NO | DLBSL |
| **621-64-7** | **n-Nitroso-di-n-propylamine** | **ND** | | **ND** | | **MG/KG** | | **0/5** | **.43 - 1.7** | **1.7** | | **0.069 C** | | | **YES** | **DLASL** |
| 86-30-6 | n-Nitrosodiphenylamine | ND | | ND | | MG/KG | | 0/5 | .43 - 1.7 | 1.7 | | 99 C | | | NO | DLBSL |
| **7440-38-2** | **Arsenic** | **1.4** | | **4.2** | **J** | **MG/KG** | **OU5-S2-SD05-00** | **5/5** | **0.96 - 4.6** | **4.2** | | **0.39 C** | | | **YES** | **ASL** |
| 7440-39-3 | Barium | 9.7 | J | 32 | J | MG/KG | OU5-S2-SD04-00 | 5/5 | 19 - 92 | 32 | | 540 N | | | NO | BSL |
| 7440-43-9 | Cadmium | 0.07 | J | 0.72 | J | MG/KG | OU5-S2-SD05-00 | 5/5 | 0.48 - 2.3 | 0.72 | | 3.7 N | | | NO | BSL |
| 7440-47-3 | Chromium | 3.6 | J | 31 | J | MG/KG | OU5-S2-SD05-00 | 5/5 | 0.96 - 4.6 | 31 | | 210 C | | | NO | BSL |
| 7439-92-1 | Lead | 4.2 | | 39.2 | | MG/KG | OU5-S2-SD04-P-00 | 5/5 | 0.29 - 1.4 | 39.2 | | 400 N | | | NO | BSL |
| 7439-97-6 | Mercury | 0.02 | J | 0.14 | J | MG/KG | OU5-S2-SD04-00 | 5/5 | 0.037 - 0.15 | 0.14 | | 0.61 N | | | NO | BSL |
| 7782-49-2 | Selenium | 1.85 | | 2 | | MG/KG | OU5-S2-SD05-00 | 2/5 | 0.48 - 2.3 | 2 | | 39 N | | | NO | BSL |
| 7440-22-4 | Silver | 0.56 | | 0.6 | | MG/KG | OU5-S2-SD05-00 | 2/5 | 0.96 - 4.6 | 0.6 | | 39 N | | | NO | BSL |

[1] Minimum/Maximum detected concentrations.

[2] Background values not available.

[3] USEPA Region IX Preliminary Remediation Goals (PRGs) Residential Soil

Screening value for 2-hexanone based on RfD.

2-Chlorophenol used as surrogate for 2-Nitrophenol, 4-chloro-3-methylphenol

2-Methylphenol used as surrogate for 4,6-Dinitro-2-methylphenol

2-Nitroaniline used as surrogate for 3-Nitroaniline, 4-Nitroaniline

Methoxychlor used as surrogate for 4-chlorophenyl phenyl ether

Pyrene used as surrogate for phenanthrene

bis(2-chloro)isopropyl ether used as surrogate for bis(2-chloroethoxy)methane

1,3-Dichloropropene used as surrogate for cis-1,2-Dichloropropene

1,3-Dichloropropene used as surrogate for trans-1,2-Dichloropropene

Naphthalene used as surrogate for2-Methylnaphthlene

Naphthalene used as surrogate for Acenaphthylene

Pyrene used as surrogate for Benzo(g,h,i)perylene

[4] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Detection Limit Above Screening Levels (DLASL) - evaluated quantitatively in uncertainty analysis

Deletion Reason: No Toxicity Information (NTX)

Essential Nutrient (NUT)

Below Screening Levels (BSL)

Below Background (BKG)

Detection Limit Below Screening Levels (DLBSL)

Detection Limit Below Background (DLBKG)

SQL = Sample Quantification Limit

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

J = Estimated Value

K = Biased High

L = Biased Low

C = Carcinogenic

N = Non-Carcinogenic

S = Soil Saturation Concentration

M = Ceiling Limit

TABLE 3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 0.9 | NA | 4.1 | | mg/kg | 4.1 | Max | (1) | 0.9 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 0.9 | NA | 7.6 | J | µg/L | 7.6 | Max | (1) | 0.9 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.9 | NA | 4.2 | J | mg/kg | 4.2 | Max | (1) | 2.9 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor

For duplicate results, the higher value was used in the calculations.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Chromium | µg/L | 2.5 | NA | 29.3 | | µg/L | 29.3 | Max | (1) | 2.5 | Mean-N | (2) |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 2.0 | Max | (1) | 0.63 | Mean-N | (2) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 9.0 | Max | (1) | 1.1 | Mean-N | (2) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples .

TABLE 3.5
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Chromium | µg/L | 2.5 | NA | 29.3 | | µg/L | 29.3 | Max | (1) | 2.5 | Mean-N | (2) |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 2.0 | Max | (1) | 0.63 | Mean-N | (2) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 9.0 | Max | (1) | 1.1 | Mean-N | (2) |

Receptor type: Construction Worker

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples .

TABLE 3.6
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Showerhead

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 2.0 | Max | (1) | 0.63 | Mean-N | (2) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 9.0 | Max | (1) | 1.1 | Mean-N | (2) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples .

TABLE 3.7
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Water Vapors at Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 2.0 | Max | (1) | 0.63 | Mean-N | (2) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 9.0 | Max | (1) | 1.1 | Mean-N | (2) |

Receptor type: Construction Worker
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the maximum concentration was used as the RME because no plume was detected on the site.
(2) CT was estimated as the arithmetic mean of all GW samples .

TABLE 3.8
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 0.9 | NA | 4.1 | | mg/kg | 4.1 | Max | (1) | 0.9 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.9
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzo(a)pyrene | mg/kg | 0.28 | NA | 0.93 | | mg/kg | 0.93 | Max | (1) | 0.28 | Mean-N | (1) |
| Benzo(a)anthracene | mg/kg | 0.33 | NA | 1.30 | | mg/kg | 1.30 | Max | (1) | 0.30 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.36 | NA | 1.50 | | mg/kg | 1.50 | Max | (1) | 0.36 | Mean-N | (1) |
| Benzo(k)fluoranthene | mg/kg | 0.41 | NA | 0.41 | | mg/kg | 0.20 | Max | (1) | 0.36 | Mean-N | (1) |
| Chrysene | mg/kg | 0.20 | NA | 1.40 | | mg/kg | 0.70 | Max | (1) | 0.21 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.39 | NA | 0.40 | | mg/kg | 0.20 | Max | (1) | 0.39 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.30 | NA | 0.72 | | mg/kg | 0.72 | Max | (1) | 0.26 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.10
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzo(a)pyrene | mg/kg | 0.28 | NA | 0.93 | | mg/kg | 0.93 | Max | (1) | 0.28 | Mean-N | (1) |
| Benzo(a)antharacene | mg/kg | 0.33 | NA | 1.30 | | mg/kg | 1.30 | Max | (1) | 0.33 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.36 | NA | 1.50 | | mg/kg | 1.50 | Max | (1) | 0.36 | Mean-N | (1) |
| Benzo(k)fluoranthene | mg/kg | 0.41 | NA | 0.40 | | mg/kg | 0.40 | Max | (1) | 0.41 | Mean-N | (1) |
| Chrysene | mg/kg | 0.20 | NA | 1.40 | | mg/kg | 0.70 | Max | (1) | 0.20 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.39 | NA | 0.40 | | mg/kg | 0.20 | Max | (1) | 0.39 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.30 | NA | 0.70 | | mg/kg | 0.70 | Max | (1) | 0.30 | Mean-N | (1) |

Receptor type: Construction Worker

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.11
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 0.9 | NA | 7.6 | J | µg/L | 7.6 | Max | (1) | 0.9 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.12
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.9 | NA | 4.2 | J | mg/kg | 4.2 | Max | (1) | 2.9 | Mean-N | (1) |

Receptor type: Resident

For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 4-1

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 250 | EPA, 1991 | 219 | EPA, 1993 | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | - - | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,300 | EPA, 1992 | 2,000 | EPA, 1992 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.32 | EPA, 1997 | 0.32 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 250 | EPA, 1991 | 219 | EPA, 1993 | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: RME assumes exposure to head, hands, forearms, and lower legs, assuming individual wears a short sleeve shirt, shorts, and shoes.

CT assumes exposure to head and hands, assuming individual wears a long sleeve shirt, pants, and shoes.

SSAF: Maximum adherence factor for utility worker.

TABLE 4-2

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | | see Table 3.1 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 4,600 | EPA, 1997 | 3,700 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance. Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Assumes skin surface area in contact with surface soil is 25% of total skin surface area. Used total skin surface area of 12-15 year male (1.49 $m^2$ for 50th percentile - CT, and 1.85$m^2$ for 95th percentile - RME).

SSAF: Soil adherence to hands, soccer #1.

TABLE 4-3

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | - - | see Table 3.1 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 8 | (1) | 4 | (1) | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 250 | EPA,1991 | 219 | EPA, 1993 | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA., 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |

(1) Professional judgement based on maintenance activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

PEF and VF calculated following method in EPA, 1996.

TABLE 4-4

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescent

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.1 | - - | see Table 3.1 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996a | 1.32E+09 | EPA, 1996a | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996a | calc | EPA, 1996a | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 2 | (1) | 2 | (1) | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 45 | (2) | 23 | (2) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996b | 10 | EPA, 1996b | |
| | BW | Body Weight | kg | 45 | EPA, 1996b | 45 | EPA, 1996b | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming trespasser would spend a maximum of 2 hours at the site.

(2) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996a: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 1996b: Supplemental Guidance to RAGS: Region 4 Bulletins.

PEF and VF calculated following method in EPA, 1996.

TABLE 4-5

VALUES USED FOR DAILY INTAKE CALCULATIONS
MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | - - | see Table 3.2 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW | Ingestion Rate of Surface Water | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-SW x ET x EF x ED x CF1 x |
| | ET | Exposure Time | hr/day | 8 | (1) | 4 | (1) | 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |
| Dermal Absorption | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | - - | see Table 3.2 | - - | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 1992 | calculated | EPA, 1992 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 1992 | chem specific | EPA, 1992 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Inorganics: |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 1992 | chem specific | EPA, 1992 | DAevent ($mg/cm^2$-event) = |
| | $t^*$ | Time to reach equilibrium | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Kp x CW x $t_{even}$ x CF1 x CF2 |
| | $t_{event}$ | Duration of Event | hr/event | 8 | (1) | 4 | (1) | |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | Organics : |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | EV | Event Frequency | event/day | 1 | EPA, 1992 | 1 | EPA, 1992 | 2 x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | x CF1 x CF2 |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | - - | 0.001 | - - | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + 3x$B^2$)/(1+B)$^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | - - | |

(1): Professional judgement assuming 15 days per year exposure frequency for the RME and CT, and 8 hours exposure time for RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1995: Exposure Factors Handbook. USEPA/600/8-89-043.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with surface water based on contact while wading. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet).

TABLE 4-6

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaty
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | - - | see Table 3.2 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-SW | Ingestion Rate of Surface Water | l/hour | 0.01 | EPA, 1996 | 0.01 | EPA, 1996 | CSW x IR-SW x ET x EF x ED x CF1 x |
| | ET | Exposure Time | hr/day | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |
| Dermal Absorption | CSW | Chemical Concentration in Surface Water | µg/l | see Table 3.2 | - - | see Table 3.2 | - - | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 1992 | calculated | EPA, 1992 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 1992 | chem specific | EPA, 1992 | |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Inorganics: |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 1992 | chem specific | EPA, 1992 | DAevent ($mg/cm^2$-event) = |
| | t* | Time to reach equilibrium | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Kp x CW x $t_{even}$ x CF1 x CF2 |
| | $t_{event}$ | Duration of Event | hr/event | 2.6 | EPA, 1989 | 2.6 | EPA, 1989 | |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,500 | EPA, 1997 | 4,500 | EPA, 1997 | Organics : |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | $t_{event}$<t*: DAevent ($mg/cm^2$-event) = |
| | EV | Event Frequency | event/day | 1 | EPA, 1992 | 1 | EPA, 1992 | 2 x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | x CF1 x CF2 |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | - - | 0.001 | - - | $t_{event}$>t*: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | Kp x CW x ( $t_{even}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1996: Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with surface water based on contact while wading. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet) of 12-15 year old male.

TABLE 4-7

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | -- | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-Sed | Ingestion Rate of Sediment | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CSed x IR-Sed x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,300 | EPA, 1992 | 2,000 | EPA, 1992 | CSed x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.32 | EPA, 1997 | 0.32 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 15 | (1) | 15 | (1) | |
| | ED | Exposure Duration | years | 25 | EPA, 1991 | 5 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 9,125 | EPA, 1989 | 1,825 | EPA, 1989 | |

(1): Professional judgement assuming 15 days per year exposure frequency for the RME and CT, and 8 hours exposure time for RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: RME assumes exposure to head, hands, forearms, and lower legs, assuming individual wears a short sleeve shirt, shorts, and shoes.

CT assumes exposure to head and hands, assuming individual wears a long sleeve shirt, pants, and shoes.

SSAF: Soil adherence factor for rugby #1.

TABLE 4-8

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributary
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | -- | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-Sed | Ingestion Rate of Sediment | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CSed x IR-Sed x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |
| Dermal Absorption | CSed | Chemical Concentration in Sediment | mg/kg | see Table 3.3 | | see Table 3.3 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 5,500 | EPA, 1997 | 4,500 | EPA, 1997 | CSed x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 45 | (1) | 23 | (1) | |
| | ED | Exposure Duration | years | 10 | EPA, 1996 | 10 | EPA, 1996 | |
| | BW | Body Weight | kg | 45 | EPA, 1996 | 45 | EPA, 1996 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 3,650 | EPA, 1989 | 3,650 | EPA, 1989 | |

(1) Professional judgement assuming 3 days per week during the summer months (when off from school) and 1 day per week during late spring and early fall for the RME and 1/2 the RME value for the CT.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1995: Assessing Dermal Exposure from Soil. EPA Region III. EPA/903-K-95-003.

EPA, 1996: Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with sediment based on contact while wading. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet) of 12-15 year old male.

TABLE 4-9

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CW | Chemical Concentration in Water | µg/l | see Table 3.4 | | see Table 3.4 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-W | Ingestion Rate of Water | liters/day | 2 | EPA, 1997 | 1.4 | EPA, 1993 | CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3285 | EPA, 1989 | |

(1) Not available, used RME value.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

Note: Following EPA Region 4 guidance, exposure to groundwater from showering (dermal and inhalation) is assumed to be equivalent to ingestion exposure.

TABLE 4-10

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CW | Chemical Concentration in Water | µg/l | see Table 3.4 | | see Table 3.4 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-W | Ingestion Rate of Water | liters/day | 1 | EPA, 1997 | 1 | EPA, 1997 | CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | -- | 0.001 | -- | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CW | Chemical Concentration in Water | µg/l | see Table 3.4 | | see Table 3.4 | | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | calculated | EPA, 1992 | calculated | EPA, 1992 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | -- | 0.001 | -- | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | -- | 0.001 | -- | Inorganics: |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 1992 | chem specific | EPA, 1992 | DAevent ($mg/cm^2$-event) = |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Kp x CW x $t_{event}$ x CF1 x CF2 |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 1992 | chem specific | EPA, 1992 | |
| | t* | Time to reach equilibrium | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Organics : |
| | $t_{event}$ | Duration of Event | hr/event | 0.33 | EPA, 1992 | 0.33 | EPA, 1992 | $t_{event}<t^*$: DAevent ($mg/cm^2$-event) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 10,000 | EPA, 1997 | 7,500 | EPA, 1997 | 2 x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EV | Event Frequency | events/day | 1 | EPA, 1992 | 1 | EPA, 1992 | x CF1 x CF2 |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | $t_{event}>t^*$: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + 3x$B^2$)/(1+B)$^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Assumes total skin surface area in contact with groundwater during showering.

TABLE 4-11

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CW | Chemical Concentration in Water | µg/l | see Table3.4 | | see Table 3.4 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-W-A | Ingestion Rate of Water, Adult | liters/day | 2 | EPA, 1997 | 1.4 | EPA, 1993 | CW x IR-W-Adj x EF x CF1 x 1/AT |
| | IR-W-C | Ingestion Rate of Water, Child | liters/day | 1 | EPA, 1997 | 1 | EPA, 1997 | |
| | IR-W-Adj | Ingestion Rate of Water, Age-adjusted | liter-year/kg-day | 1.09 | calculated | 0.58 | calculated | IR-W-Adj (liter-year/kd-day) = |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | (ED-C x IR-W-C / BW-C) + (ED-A x IR-W-A / BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund, Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-12

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Dermal Absorption | CW | Chemical Concentration in Water | µg/l | see Table 3.5 | | see Table 3.5 | chem specific | CDI (mg/kg-day) = |
| | DAevent | Dermally Absorbed Dose per Event | $mg/cm^2$-event | modeled | EPA, 1992 | modeled | EPA, 1992 | DAevent x SA x EV x EF x ED x 1/BW x 1/AT |
| | CF1 | Conversion Factor 1 | mg/µg | 0.001 | - - | 0.001 | - - | |
| | CF2 | Conversion Factor 2 | $l/cm^3$ | 0.001 | - - | 0.001 | - - | Inorganics: |
| | Kp | Permeability Constant | cm/hr | chem specific | EPA, 1992 | chem specific | EPA, 1992 | DAevent ($mg/cm^2$-event) = |
| | $\tau$ | Lag Time | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Kp x CW x $t_{even}$ x CF1 x CF2 |
| | t* | Time to Reach Steady-state | hours | chem specific | EPA, 1992 | chem specific | EPA, 1992 | |
| | B | Ratio of Permeability of Stratum Corneum to Epidermis | dimensionless | chem specific | EPA, 1992 | chem specific | EPA, 1992 | Organics : |
| | $t_{event}$ | Duration of Event | hr/event | 8 | (1) | 4 | (1) | $t_{event}$<t*: DAevent ($mg/cm^2$-event) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,000 | EPA, 1997 | 5,400 | EPA, 1997 | 2 x Kp x CW x (sqrt((6 x $\tau$ x $t_{event}$)/3.1415)) |
| | EV | Event Frequency | events/day | 1 | (1) | 1 | (1) | x CF1 x CF2 |
| | EF | Exposure Frequency | days/year | 40 | (1) | 40 | (1) | |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1991 | $t_{event}$>t*: DAevent ($mg/cm^2$-event) = |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | Kp x CW x ( $t_{event}$/(1+B) + 2 x $\tau$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | x CF1 x CF2 |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |

(1) Professional Judgement based on construction activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT. Assumed exposure to open excavation would be 40 days

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1992: Dermal Exposure Assessment: Principals and Applications. ORD. EPA/600/8-91/011B.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area in contact with groundwater based on contact during construction activities. Assumes 30 percent of total surface area (hands, forearms, lower legs, and feet).

TABLE 4-13

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CDI | Chonic daily intake from showering | mg/kg-day | modeled | EPA, 1996 | modeled | EPA, 1996 | Exposure from showering (inhalation and dermal) equal to exposure from ingestion |

Sources:

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

TABLE 4-14

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Water Vapors at Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CA | Air Concentration | $mg/m^3$ | modeled | | modeled | | CA calculated from CW using two-film volatilation model |
| | CW | Chemical Concentration in Water | µg/l | see Table 3.7 | | see Table 3.7 | chem specific | |
| | IN | Inhalation Rate | $m^3$/hour | 1.7 | EPA, 1997 | 1.7 | EPA, 1997 | |
| | ET | Exposure Time | hr/day | 8 | (1) | 4 | (1) | |
| | EF | Exposure Frequency | days/year | 40 | (1) | 40 | (1) | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | ED | Exposure Duration | years | 1 | EPA, 1991 | 1 | EPA, 1993 | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 365 | EPA, 1989 | 365 | EPA, 1989 | |

(1) Professional Judgement based on construction activities that would occur 8 hrs per day for the RME and 1/2 of a day for the CT. Assume exposure to open excavation would be 40 days

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-15

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | -- | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | -- | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1995 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for adult resident wearing a short-sleeved shirt, shorts, and shoes. Exposed area includes head, hands, forearms, and lower legs.

TABLE 4-16

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 3,400 | EPA, 1997 | 2,900 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1996 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | - - | 0.000001 | - - | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for child resident wearing a short-sleeved shirt and shorts (no shoes). Exposed area includes head, hands, forearms, lower legs, and feet.

SSAF: Soil adherence to hands, soccer #1.

TABLE 4-17

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S-A | Ingestion Rate of Soil, Adult | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S-Adj x EF x CF3 x 1/AT |
| | IR-S-C | Ingestion Rate of Soil, Child | mg/day | 200 | EPA, 1991 | 100 | EPA, 1993 | |
| | IR-S-Adj | Ingestion Rate of Soil, Age-adjusted | mg-year/kg-day | 114.29 | calculated | 46.43 | calculated | IR-S-Adj (mg-year/kd-day) = |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | (ED-C x IR-S-C / BW-C) + (ED-A x IR-S-A / BW-A) |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | CDI (mg/kg-day) = |
| | SA-A | Skin Surface Area Available for Contact, Adult | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x DA-Adj x DABS x CF3 x EF x 1/AT |
| | SA-C | Skin Surface Area Available for Contact, Child | $cm^2$ | 3,400 | EPA, 1997 | 2,900 | EPA, 1997 | |
| | SSAF-A | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | |
| | SSAF-C | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.11 | EPA, 1997 | 0.11 | EPA, 1997 | DA-Adj (mg-year/kd-day) = |
| | DA-Adj | Dermal Absorption, Age-adjusted | mg-year/kg-day | 602 | calculated | 274 | calculated | [(ED-C x SA-C x SSAF-C/ BW-C) + |
| | DABS | Dermal Absorption Factor Solids | – | chem specific | EPA, 1996 | chem specific | EPA, 1996 | (ED-A x SA-A x SSAF-A / BW-A)] |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

TABLE 4-18

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | - - | see Table 3.8 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | ET | Exposure Time | hr/day | 24 | - - | 24 | - - | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA,1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:


EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

TABLE 4-19

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | - - | see Table 3.8 | - - | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | - - | modeled | - - | CA x IN x ET x EF x ED x 1/BW x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | |
| | IN | Inhalation Rate | $m^3/hour$ | 0.5 | EPA, 2000 | 0.5 | EPA, 2000 | |
| | ET | Exposure Time | hr/day | 24 | - - | 24 | - - | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW | Body Weight | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 2,190 | EPA, 1989 | 2,190 | EPA, 1989 | |

Sources:


EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 2000: Region III, Risk-based Concentration Table.

TABLE 4-20

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Inhalation | CS | Chemical Concentration in Soil | mg/kg | see Table 3.8 | | see Table 3.8 | | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | CA | Chemical Concentration in Air | $mg/m^3$ | modeled | -- | modeled | -- | CA x IN-Adj x EF x 1/AT |
| | PEF | Particulate Emission Factor | $m^3/kg$ | 1.32E+09 | EPA, 1996 | 1.32E+09 | EPA, 1996 | |
| | VF | Volatilization Factor for volatile constituents | $m^3/kg$ | calc | EPA, 1996 | calc | EPA, 1996 | CA ($mg/m^3$) = CS (1/PEF + 1/VF) |
| | IN-A | Inhalation Rate, Adult | $m^3/hour$ | 0.83 | EPA, 1991 | 0.83 | EPA, 1991 | |
| | IN-C | Inhalation Rate, Child | $m^3/hour$ | 0.5 | EPA, 2000 | 0.5 | EPA, 2000 | IN-Adj ($m^3$-year/kd-day) = |
| | IN-Adj | Inhalation Rate, Age-adjusted | $m^3$-year/kg-day | 11.66 | calculated | 7.37 | calculated | (ED-C x IN-C x ET / BW-C) + (ED-A x IN-A x ET / BW-A) |
| | ET | Exposure Time | hours/day | 24 | (1) | 24 | (1) | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED-A | Exposure Duration, Adult | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | ED-C | Exposure Duration, Child | years | 6 | EPA, 1991 | 6 | EPA, 1991 | |
| | BW-A | Body Weight , Adult | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | BW-C | Body Weight, Child | kg | 15 | EPA, 1991 | 15 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |

(1) Professional Judgement conservatively assumed all day.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Soil Screening Guidance: User's Guide. OSWER. EPA/540/R-96/018.

EPA, 2000: Region III, Risk-based Concentration Table.

TABLE 4-21

VALUES USED FOR DAILY INTAKE CALCULATIONS

MCAS Cherry Point OU5, Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Parameter Code | Parameter Definition | Units | RME Value | RME Rationale/ Reference | CT Value | CT Rationale/ Reference | Intake Equation/ Model Name |
|---|---|---|---|---|---|---|---|---|
| Ingestion | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | -- | Chronic Daily Intake (CDI) (mg/kg-day) = |
| | IR-S | Ingestion Rate of Soil | mg/day | 100 | EPA, 1991 | 50 | EPA, 1993 | CS x IR-S x EF x ED x CF3 x 1/BW x 1/AT |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |
| Dermal Absorption | CS | Chemical Concentration in Soil | mg/kg | see Table 3.9 | | see Table 3.9 | -- | CDI (mg/kg-day) = |
| | SA | Skin Surface Area Available for Contact | $cm^2$ | 6,600 | EPA, 1997 | 5,700 | EPA, 1997 | CS x SA x SSAF x DABS x CF3 x EF x |
| | SSAF | Soil to Skin Adherence Factor | $mg/cm^2$-day | 0.2 | EPA, 1997 | 0.2 | EPA, 1997 | ED x 1/BW x 1/AT |
| | DABS | Dermal Absorption Factor Solids | -- | chem specific | EPA, 1996 | chem specific | EPA, 1995 | |
| | CF3 | Conversion Factor 3 | kg/mg | 0.000001 | -- | 0.000001 | -- | |
| | EF | Exposure Frequency | days/year | 350 | EPA, 1991 | 234 | EPA, 1993 | |
| | ED | Exposure Duration | years | 24 | EPA, 1991 | 9 | EPA, 1993 | |
| | BW | Body Weight | kg | 70 | EPA, 1991 | 70 | EPA, 1991 | |
| | AT-C | Averaging Time (Cancer) | days | 25,550 | EPA, 1989 | 25,550 | EPA, 1989 | |
| | AT-N | Averaging Time (Non-Cancer) | days | 8,760 | EPA, 1989 | 3,285 | EPA, 1989 | |

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 1996: Supplemental Guidance to RAGS: Region 4 Bulletins.

EPA, 1997: Exposure Factors Handbook. EPA/600/P-95/002Fa.

SA: Skin surface area for adult resident wearing a short-sleeved shirt, shorts, and shoes. Exposed area includes head, hands, forearms, and lower legs.

TABLE 7.19.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 8.4E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.8E-01 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.1E-06 |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 5.1E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 7.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 7.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.6E-02 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 7.7E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.6E-03 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.9E-06 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 2.9E-06 |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.9E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.9E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.9E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.9E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 3.1E-01 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 4.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.6E-02 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | NABS | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 2.9E-09 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.8E-03 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.8E-04 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 5.5E-06 |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 7.1E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 7.1E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.1E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.3E-01 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available, else chronic.

TABLE 7.20.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 5.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.7E-02 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 3.0E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.0E-07 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 1.7E-07 |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.7E-02 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | NABS | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.0E-08 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 6.0E-08 |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.0E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.0E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.6E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.3E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.8E-02 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available, else chronic.

TABLE 7.21.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 5.0E-09 | $mg/m^3$ | R | 1.4E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chloroform | 4.0E-03 | mg/kg | 1.7E-06 | $mg/m^3$ | R | 4.8E-07 | mg/kg-day | 8.6E-04 | mg/kg-day | 3.0E-03 | $mg/m^3$ | 5.5E-04 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 4.8E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 8.0E-06 | $mg/m^3$ | R | 2.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.5E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5.5E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

**Table 7.21.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.22.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 5.0E-09 | $mg/m^3$ | R | 3.8E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chloroform | 4.0E-03 | mg/kg | 1.74E-06 | $mg/m^3$ | R | 1.3E-06 | mg/kg-day | 8.6E-04 | mg/kg-day | 3.0E-03 | $mg/m^3$ | 1.6E-03 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.3E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 7.97E-06 | $mg/m^3$ | R | 6.1E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.6E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.6E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

Table 7.22..UA.RME Supplement
Calculations of Volatilization Factor and Soil Saturation Concentrations
*MCAS Cherry Point, OU5 Site 1*

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.23.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 4.1E-06 | $mg/m^3$ | R | 8.7E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chloroform | 4.0E-03 | mg/kg | 5.2E-06 | $mg/m^3$ | R | 1.1E-07 | mg/kg-day | 8.6E-04 | mg/kg-day | 3.0E-03 | $mg/m^3$ | 1.3E-04 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.4E-07 | $mg/m^3$ | R | 3.0E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.3E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.3E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

Table 7.23.UA.RME Supplement
Calculations of Volatilization Factor and Soil Saturation Concentrations
*MCAS Cherry Point, OU5 Site 1*

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 0.00E+00 | 7.92E+03 | 2.00E-02 | 7.72E+02 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.24.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.8E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.7E-06 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.6E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 9.2E-08 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 3.3E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Vinyl chloride | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.6E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.3E-05 |
| | cis-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.6E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.3E-06 |
| | trans-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.6E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.3E-06 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 6.9E-05 |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.9E-06 |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 6.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 6.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.0E-03 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 6.0E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 6.0E-03 |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 6.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.0E-04 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.24.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.4E-05 |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.7E-04 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 6.9E-04 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.9E-06 |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-06 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.9E-06 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Mercury | 4.0E-02 | µg/L | 4.0E-02 | µg/L | M | 1.8E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.9E-03 |

TABLE 7.24.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.9E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 2.7E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.2E-05 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.5E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.5E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 6.3E-06 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.3E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.4E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 4.9E-04 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.7E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.8E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 7.6E-05 |
| | Vinyl chloride | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | cis-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 5.6E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.9E-05 |
| | trans-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 5.6E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.9E-05 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.8E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 2.4E-04 |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.2E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 3.2E-04 |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.5E-04 |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 6.8E-06 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 6.8E-02 |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.24.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.5E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.8E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 7.3E-02 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.5E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 1.2E-01 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.2E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 7.2E-03 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.8E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.2E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.6E-04 |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.7E-04 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.8E-03 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.5E-07 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.8E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.9E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.24A.UA.RME Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 3.5E+00 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 0.0E+00 | 2.6 | 6.1E-08 | 3 |
| cis-1,3-Dichloropropene | 3.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 5.3E-08 | 3 |
| trans-1,3-Dichloropropene | 3.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 5.3E-08 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| 2,4-Dinitrotoluene | 3.0E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 4.5E-08 | 2 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 3.0E-08 | 2 |
| 2-Methylnaphthalene | 3.0E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.4E-06 | 3 |
| 2-Nitroaniline | 1.3E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.3E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.1E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.3E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 6.5E-07 | 2 |
| 4-Nitroaniline | 1.3E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 1.1E-07 | 3 |
| Acenaphthylene | 3.0E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.3E-06 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.9E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 3.0E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.7E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.8E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 9.0E-07 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 5.5E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.3E-06 | 2 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 6.8E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.6E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 3 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.6E-05 | 2 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 2.1E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.9E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.4E-08 | 3 |
| n-Nitrosodiphenylamine | 3.0E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 9.7E-08 | 2 |
| Mercury | #REF! | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | #REF! | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 7.24.UA.RME Supplement B
Calculation of DAevent
Resident, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | $t^*$[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 7.25.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.1E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.6E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.3E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 1.1E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.3E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 1.5E-04 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.3E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.1E-05 |
| | Vinyl chloride | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 7.5E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | cis-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 7.5E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.5E-05 |
| | trans-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 7.5E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.5E-05 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 3.2E-04 |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 6.4E-04 |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-05 |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.8E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.8E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 9.3E-03 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.8E-06 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 2.8E-02 |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.8E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 9.3E-04 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.25.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.6E-04 |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 8.0E-04 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 6.4E-04 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-05 |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-05 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-05 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.6E-02 |

TABLE 7.25.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.2E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.4E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.0E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 5.0E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.9E-05 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.6E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 1.2E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.8E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 9.1E-04 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.1E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | Vinyl chloride | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.0E-04 |
| | cis-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.0E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.5E-05 |
| | trans-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.0E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.5E-05 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.8E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 4.4E-04 |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.0E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 6.0E-04 |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.1E-06 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.3E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.2E-06 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.5E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.7E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.25.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.7E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.8E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.3E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.7E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-03 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.8E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 4.4E-03 |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.6E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 2.3E-01 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.8E-04 |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.2E-04 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.8E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.9E-03 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-07 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.3E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5.7E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.25A.UA.RME Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 3.5E+00 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 0.0E+00 | 2.6 | 6.1E-08 | 3 |
| cis-1,3-Dichloropropene | 3.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 5.3E-08 | 3 |
| trans-1,3-Dichloropropene | 3.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 5.3E-08 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| 2,4-Dinitrotoluene | 3.0E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 4.5E-08 | 2 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 3.0E-08 | 2 |
| 2-Methylnaphthalene | 3.0E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.4E-06 | 3 |
| 2-Nitroaniline | 1.3E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.3E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.1E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.3E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 6.5E-07 | 2 |
| 4-Nitroaniline | 1.3E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 1.1E-07 | 3 |
| Acenaphthylene | 3.0E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.3E-06 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.9E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 3.0E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.7E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.8E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 9.0E-07 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 5.5E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.3E-06 | 2 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 6.8E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.6E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 3 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.6E-05 | 2 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 2.1E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.9E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.4E-08 | 3 |
| n-Nitrosodiphenylamine | 3.0E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 9.7E-08 | 2 |
| Mercury | #REF! | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | #REF! | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 7.26.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.8E-03 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.7E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.7E-07 |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.7E-09 | mg/kg-day | N/A | | N/A | N/A | |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.7E-09 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.9E-05 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.9E-04 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.9E-03 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | 3.5E-02 | mg/kg-day | N/A | N/A | 6.5E-06 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 5.8E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.9E-04 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.9E-05 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.7E-03 |

TABLE 7.26.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.3E-03 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 3.3E-09 | mg/kg-day | N/A | | N/A | N/A | |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 3.3E-09 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.1E-05 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.7E-03 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.7E-04 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 4.4E-07 |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 3.5E-02 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 5.5E-04 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 8.8E-05 |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.7E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 9.2E-05 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.1E-03 |

NABS - No absorption fraction available.

Total Hazard Index Across All Exposure Routes/Pathways 1.7E-02

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available. If subchronic value not available, chronic value used.

TABLE 7.27.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.6E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.4E-02 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.3E-06 |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.3E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.3E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.3E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.3E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.3E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-02 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.1E-05 |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 3.5E-02 | mg/kg-day | N/A | N/A | 6.1E-05 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 5.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 4.3E-03 |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.3E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.1E-02 |

TABLE 7.27.UA.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.1E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.0E-01 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.9E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-03 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.3E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.3E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.6E-01 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.3E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.6E-02 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 9.2E-05 |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | 3.5E-02 | mg/kg-day | N/A | N/A | 2.6E-03 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.2E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.2E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.2E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 3.0E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.1E-01 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.2E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.8E-02 |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.7E-04 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.9E-02 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 9.2E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.7E+00 |

NABS - No absorption fraction available.

Total Hazard Index Across All Exposure Routes/Pathways 1.8E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available. If subchronic value not available, chronic value used.

TABLE 7.28.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.1E-01 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 7.2E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 7.2E-04 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 1.1E-04 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.1E-03 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-04 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-04 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 4.6E-03 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 9.2E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-04 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 6.4E-04 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.1E-03 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-04 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 6.6E-02 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 3.4E-02 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 6.8E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.28.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.4E-01 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-04 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.3E+00 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 6.8E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.4E-02 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 8.5E-03 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 4.2E-02 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 1.7E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 3.4E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.7E-03 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 6.8E-02 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 6.2E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.1E-03 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.4E+00 |

Total Hazard Index Across All Exposure Routes/Pathways 2.4E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.29.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.6E-01 |
| | Chloroform | 5.6E-01 | µg/L | 5.64E-01 | µg/L | M | 2.4E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.6E-04 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.3E-03 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.1E-04 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.1E-04 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.1E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.1E-03 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 1.5E-02 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 3.1E-02 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.1E-03 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.1E-03 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.1E-04 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.1E-04 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.4E-04 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 2.2E-01 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.1E-01 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 2.3E-02 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.4E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.29.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.4E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.5E+00 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.4E-04 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 4.4E+00 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 2.3E-02 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.4E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.5E-01 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.8E-02 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.4E-01 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 5.6E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.1E-01 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.6E-03 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 2.3E-01 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.8E-03 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 2.1E-04 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.0E-02 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 7.9E+00 |

TABLE 7.29.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.8E-04 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 1.6E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.6E-04 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.5E-06 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 4.1E-05 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.9E-04 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.3E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.4E-05 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.9E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 6.4E-04 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.4E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.5E-04 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.8E-05 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-06 | mg/kg-day | 2.0E-02 | | N/A | N/A | |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-07 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 3.4E-04 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.2E-06 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 7.4E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.1E-05 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.3E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.4E-04 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.5E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.8E-05 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.5E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.8E-05 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.0E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 6.5E-03 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.6E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 4.6E-03 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 3.1E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.2E-05 | mg/kg-day | N/A | | N/A | N/A | |

TABLE 7.29.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.1E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.7E-02 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 9.7E-01 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.0E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.0E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.2E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.9E-03 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.9E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.2E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.3E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-02 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.9E-02 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-03 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.8E+00 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.6E-04 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 2.8E+00 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-04 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.4E-01 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.0E-02 | mg/kg-day | N/A | | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.4E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.3E-06 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-03 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.5E-01 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.8E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 1.4E-03 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.2E-02 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 6.1E+00 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.4E+01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

Table 7.29A.UA.RME Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 8.3E-10 | 1 |
| Chloroform | 5.6E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 5.1E-09 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 7.0E-09 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.6E-08 | 2 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.3E-07 | 2 |
| 2,4-Dinitrophenol | 1.0E+01 | 1.5E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 3.5E-03 | 0.33 | 4.1E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.4E-08 | 2 |
| 2-Chlorophenol | 2.6E+00 | 1.2E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 4.9E-08 | 2 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 3.9E-08 | 2 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.5E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 0.33 | 3.0E-07 | 2 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 0.33 | 1.6E-08 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 0.33 | 3.6E-08 | 2 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.2E-05 | 2 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 0.33 | 2.3E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 4.9E-07 | 2 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 4.5E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 1.8E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 4.5E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 0.33 | 3.2E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 2.0E-07 | 2 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 2.0E-08 | 2 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.4E-05 | 2 |

Table 7.29A.UA.RME Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 0.33 | 7.0E-09 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-03 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.4E+01 | 0.33 | 1.8E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 4.8E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 0.33 | 4.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 0.33 | 8.4E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + $3xB^2$)/$(1+B)^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
rmeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 7.29.UA.CT Supplement B
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

TABLE 7.30.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.5E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.1E-03 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 6.6E-06 |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.2E-04 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.2E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.2E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.4E-04 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.2E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.8E-06 |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 3.5E-02 | mg/kg-day | N/A | N/A | 8.0E-06 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.5E-04 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 5.6E-04 |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.1E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.4E-05 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.9E-03 |

TABLE 7.30.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU6 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 2.2E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.3E-02 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | NABS | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.5E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.4E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.1E-01 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.4E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | 3.5E-02 | mg/kg-day | N/A | N/A | 3.8E-04 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 1.8E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.7E-02 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 8.5E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.8E-03 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.2E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.3E-01 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available. If subchronic value not available, chronic value used.

TABLE 7.31.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reads Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 2.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 6.7E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.5E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 9.1E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.2E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 5.5E-06 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 7.8E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.5E-06 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-05 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 2.8E-04 |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-03 |
| | 4,5-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.8E-04 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 7.0E-05 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.5E-04 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 2.8E-04 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 9.4E-06 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.9E-02 |

TABLE 7.31.UA.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.2E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.4E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.0E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 5.0E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.9E-05 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.8E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 1.2E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.8E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 9.1E-04 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.1E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | Vinyl chloride | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.0E-04 |
| | cis-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.0E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.5E-05 |
| | trans-1,3-Dichloropropene | 3.5E+00 | µg/L | 3.5E+00 | µg/L | M | 1.0E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.5E-05 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.8E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 4.4E-04 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.0E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 6.0E-04 |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-06 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.2E-06 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.7E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.7E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.8E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.3E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.7E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-03 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.8E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 4.4E-03 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.6E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 2.3E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.8E-04 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.2E-04 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.8E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.9E-03 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.7E-07 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.3E-01 |
| | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | | 5.4E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

TABLE 8.1.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.7E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 8.7E-10 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.2E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.2E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.9E-07 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.9E-07 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.8E-08 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.6E-07 |
| | (Total) | | | | | | | | | | 4.5E-06 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 8.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.5E-07 |
| | (Total) | | | | | | | | | | 5.2E-06 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 9.8E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.2.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.9E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 9.8E-11 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-10 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-10 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 9.0E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 9.0E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.6E-08 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 9.0E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.6E-08 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 9.0E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 9.0E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 9.9E-09 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 9.0E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 6.3E-08 |
| | (Total) | | | | | | | | | | 5.1E-07 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.9E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.6E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 5.9E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.3E-08 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 5.9E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.3E-08 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.6E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.3E-09 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.6E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.0E-09 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.6E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.2E-08 |
| | (Total) | | | | | | | | | | 1.7E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.8E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.3.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.9E+00 | mg/kg | 3.7E-09 | $mg/m^3$ | R | 8.6E-11 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.3E-09 |
| | Chloroform | 2.5E-03 | mg/kg | 1.9E-12 | $mg/m^3$ | R | 4.4E-14 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.6E-15 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 4.0E-12 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 4.0E-12 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 4.4E-12 |
| | | | | | | | | | | | 1.3E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.3E-09 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.4.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.9E+00 | mg/kg | 3.7E-09 | $mg/m^3$ | R | 2.4E-12 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.6E-11 |
| | Chloroform | 2.5E-03 | mg/kg | 1.9E-12 | $mg/m^3$ | R | 1.2E-15 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.0E-16 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.1E-13 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.1E-13 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.2E-13 |
| | (Total) | | | | | | | | | | 3.6E-11 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.7E-11 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.5.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.3E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 7.6E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.4E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 7.0E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.4E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 6.0E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.2E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.4E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.2E-07 | mg/kg-day | N/A | (mg/kg-day) $^{-1}$ | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.4E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.9E-09 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.0E-10 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | N/A | N/A | |

TABLE 8.5.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 6.0E-09 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.0E-10 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.5E-10 |
| | (Total) | | | | | | | | | | 1.5E-06 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.8E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.7E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.3E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.0E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 7.7E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.8E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.0E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 9.5E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.0E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.3E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.1E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.5E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 3.6E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.6E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.0E-07 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 3.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.4E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.6E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 3.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.6E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-05 |

TABLE 8.5.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.9E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.9E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.7E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.4E-04 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.2E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.2E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.9E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.5E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.3E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.6E-06 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 7.0E-07 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.4E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | (Total) | | | | | | | | | | 9.3E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.3E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.5.UA.RME Supplement B
Calculation of DAevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.6.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.8E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.9E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 4.6E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.5E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 3.2E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 6.6E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-10 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.6E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.6E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |

TABLE 8.6.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.9E-08 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | Pentachorphenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 1.5E-10 |
| | (Total) | | | | | | | | | | 9.0E-07 |

TABLE 8.6.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.3E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 6.6E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 9.3E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.9E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | 2-hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 5.1E-08 | mg/kg-day | N/A | | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.0E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 9.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | Vinyl Chlorode | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.7E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.6E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.6E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.2E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.6E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.4E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-06 | mg/kg-day | N/A | N/A | |

TABLE 8.6.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 2.2E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.2E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 4.5E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 4.7E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.8E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 4.2E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.0E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 2.2E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 9.1E-04 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.9E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.9E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 3.9E-07 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 2.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 5.7E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.5E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day)$^{-1}$ | 5.6E-06 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 5.1E-07 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.3E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 8.9E-08 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 3.6E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.1E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day)$^{-1}$ | 1.0E-09 |
| | (Total) | | | | | | | | | | 1.5E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.5E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.7.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.8E-10 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.8E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.8E-10 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.8E-10 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.0E-10 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.8E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 6.0E-09 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 6.9E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.8E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 8.2E-09 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.0E-08 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | (Total) | | | | | | | | | | 9.2E-07 |

TABLE 8.7.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 3.5E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.9E-10 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 3.5E-10 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 6.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 6.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.4E-07 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 6.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.4E-08 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 6.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.9E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 4.6E-08 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | | | | | | | | | | | 1.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.3E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.8.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 1.3E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 1.3E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 1.3E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-10 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.6E-07 |
| | (Total) | | | | | | | | | | 1.7E-06 |

TABLE 8.8.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 7.0E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 2.3E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-10 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 2.3E-10 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 9.2E-11 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 7.7E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 7.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 7.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 6.8E-09 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 1.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-08 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 4.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 1.9E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 3.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | | | | | | | | | | | 9.1E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.6E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.9.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 8.8E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-04 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 9.4E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 6.6E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.0E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 6.1E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 3.4E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.7E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.7E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | 2,4-Dinitrophenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.0E-04 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.0E-04 | mg/kg-day | N/A | N/A | |

TABLE 8.9.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-05 |
| | 3-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.0E-04 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.1E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.0E-04 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.0E-04 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.1E-06 |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.1E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-04 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.5E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 3.4E-06 |
| | bis(2-Chloroethoxy)methane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.1E-05 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.0E-04 |
| | (Total) | | | | | | | | | | 9.2E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.2E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.10.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 5.2E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 7.7E-05 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 5.5E-06 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.5E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.8E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 6.6E-08 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.6E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 2.0E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | 2,4-Dinitrophenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 6.0E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 6.0E-05 | mg/kg-day | N/A | N/A | |

TABLE 8.10.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 7.4E-06 |
| | 3-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 6.0E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 6.0E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 6.0E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-04 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.6E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.0E-06 |
| | bis(2-Chloroethoxy)methane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.8E-05 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.2E-04 |
| | (Total) | | | | | | | | | | 5.4E-04 |

TABLE 8.10.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 1.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 5.0E-07 | mg/kg-day | N/A | | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-07 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 7.6E-07 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-07 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.3E-06 | mg/kg-day | N/A | | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 5.4E-08 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.9E-07 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-07 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.1E-08 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-07 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.0E-06 | mg/kg-day | N/A | | |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | 2,4-Dinitrophenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 2.4E-06 | mg/kg-day | N/A | | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.9E-07 | mg/kg-day | N/A | | |
| | 2-Chlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.0E-06 | mg/kg-day | N/A | | |
| | 2-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 6.2E-06 |
| | 3-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 2.0E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.1E-08 |

TABLE 8.10.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4,6-Dinitro-2-methylphenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.8E-05 | mg/kg-day | N/A | | |
| | 4-Methylphenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.7E-07 | mg/kg-day | N/A | | |
| | 4-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 2.1E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.2E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.3E-04 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-02 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-03 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-03 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-03 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.0E-04 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.2E-04 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.3E-06 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.3E-02 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.0E-05 | mg/kg-day | N/A | | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-04 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.5E-04 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 8.5E-06 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.8E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.0E-03 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-03 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-05 | mg/kg-day | N/A | | |
| | Nitrobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-06 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.6E-04 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.4E-04 |
| | bis(2-Chloroethoxy)methane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.4E-07 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 1.0E+00 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-04 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.2E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.6E-06 |
| | (Total) | | | | | | | | | | 3.8E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways: 3.8E-02

One-hit equation used for calculating risks for benzo(a)pyrene and dibenz(a,h)anthracene.

Table 8.10A.UA.RME Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 3.1E-09 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 9.1E-09 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 7.0E-09 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.8E-08 | 2 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.7E-07 | 2 |
| 2,4-Dinitrophenol | 1.1E+01 | 1.5E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 3.5E-03 | 0.33 | 4.4E-08 | 2 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.6E-08 | 2 |
| 2-Chlorophenol | 3.0E+00 | 1.2E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 5.5E-08 | 2 |
| 2-Nitroaniline | 1.1E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 4.2E-08 | 2 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.5E-07 | 2 |
| 3-Nitroaniline | 1.1E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.7E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.1E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 0.33 | 3.3E-07 | 2 |
| 4-Methylphenol | 3.0E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 0.33 | 1.8E-08 | 2 |
| 4-Nitroaniline | 1.1E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 0.33 | 3.9E-08 | 2 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.3E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.8E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.9E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 0.33 | 2.6E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.3E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 5.7E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 5.5E-07 | 2 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 5.1E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 2.0E-06 | 2 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 5.1E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 0.33 | 3.6E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 2.3E-07 | 2 |
| Nitrobenzene | 3.0E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 2.2E-08 | 2 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.6E-05 | 2 |

Table 8.10A.UA.RME Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| bis(2-Chloroethoxy)methane | 3.0E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 0.33 | 8.0E-09 | 2 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-03 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.4E+01 | 0.33 | 2.1E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 0.33 | 2.8E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 0.33 | 9.5E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =

Table 8.10.UA.RME Supplement B
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.11.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 1.4E-04 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-04 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 1.5E-05 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.3E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 6.8E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.1E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 4.6E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 9.7E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 6.3E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 5.4E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.5E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.5E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.9E-07 |
| | 2,4-Dinitrophenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | |

TABLE 8.11.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-05 |
| | 3-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.6E-04 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.3E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.6E-04 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.3E-06 |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.3E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.3E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.3E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.3E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.3E-04 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.2E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.5E-06 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.3E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.3E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.4E-06 |
| | bis(2-Chloroethoxy)methane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.9E-05 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.3E-07 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.1E-04 |
| | (Total) | | | | | | | | | | 1.5E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.5E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.12.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.4E+00 | µg/L | 9.4E+00 | µg/L | M | 2.7E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 8.2E-09 | mg/kg-day | N/A | | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.5E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 9.0E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.9E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.4E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.5E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.0E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.4E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-09 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 1.6E-11 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-09 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.6E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.9E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 4.5E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.9E-08 | mg/kg-day | N/A | | |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 2,4-Dinitrophenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.6E-09 | mg/kg-day | N/A | | |
| | 2-Chlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.1E-08 | mg/kg-day | N/A | | |
| | 2-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 3.2E-08 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.0E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.2E-08 |
| | 3-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 2.9E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.8E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | | |

TABLE 8.1[illegible].RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4-Methylphenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | | |
| | 4-Nitroaniline | 1.1E+01 | µg/L | 1.1E+01 | µg/L | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.0E-05 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.3E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-06 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.9E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.1E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.9E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.8E-05 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.3E-07 | mg/kg-day | N/A | | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.7E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.2E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-06 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-07 | mg/kg-day | N/A | | |
| | Nitrobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.9E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.4E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | bis(2-Chloroethoxy)methane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.6E-09 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.0E+00 | (mg/kg-day) $^{-1}$ | 4.2E-09 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.4E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.9E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | | | | | | | | | | | 9.9E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways 9.9E-05

Table 8.12.UA.RME Supplement B
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | $t^*$[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

Table 8.12A.UA.RME Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (mg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (t) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm2-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 2.0E-08 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 8 | 6.1E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 8 | 3.4E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 8 | 2.9E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 8 | 2.5E-08 | 3 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 8 | 1.1E-08 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 8 | 1.8E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 8 | 3.5E-08 | 3 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 8 | 2.3E-07 | 3 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 8 | 1.8E-07 | 3 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 8 | 5.9E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 8 | 2.2E-08 | 3 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 8 | 1.5E-08 | 3 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 8 | 1.2E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 8 | 7.2E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 8 | 1.4E-08 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 8 | 1.5E-07 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 8 | 2.4E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 8 | 1.9E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 8 | 1.9E-08 | 3 |
| 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 8 | 1.4E-07 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 8 | 1.0E-06 | 3 |
| 2,4-Dinitrophenol | 1.1E+01 | 1.5E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 3.5E-03 | 8 | 1.7E-07 | 3 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 8 | 6.4E-08 | 3 |
| 2-Chlorophenol | 3.0E+00 | 1.2E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 8 | 3.1E-07 | 3 |
| 2-Nitroaniline | 1.1E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 8 | 2.4E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 8 | 5.2E-07 | 3 |
| 3-Nitroaniline | 1.1E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 8 | 2.2E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.1E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 8 | 1.1E-06 | 3 |
| 4-Methylphenol | 3.0E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 8 | 1.3E-07 | 3 |
| 4-Nitroaniline | 1.1E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 8 | 2.2E-07 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.6E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 8 | 3.1E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 8 | 3.2E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 8 | 2.9E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.6E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 8 | 5.9E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 8 | 1.7E-06 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 8 | 6.5E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 8 | 3.1E-06 | 3 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 8 | 1.1E-06 | 3 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 8 | 3.8E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 8 | 1.1E-06 | 3 |
| Nitrobenzene | 3.0E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 8 | 1.4E-07 | 3 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 8 | 1.8E-05 | 2 |
| bis(2-Chloroethoxy)methane | 3.0E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 8 | 3.4E-08 | 3 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-03 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.6E+00 | 8 | 3.1E-08 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 8 | 3.3E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 8 | 5.9E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm3 (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x tevent x tevent)/p)) x 0.001 mg/ug x 0.001 l/cm3 (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x tevent x ((1 + 3xB + 3xB2)/(1+B)2) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.13.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 1.0E+00 | µg/L | 1.0E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 8.1E-02 | (mg/kg-day) $^{-1}$ | 7.6E-07 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 9.4E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.6E-02 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.4E-03 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 7.6E-01 | (mg/kg-day) $^{-1}$ | 3.6E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.9E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | | |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 3.9E-03 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.3E-02 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | | |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.5E-02 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-02 | (mg/kg-day) -1 | 4.7E-08 |
| | (Total) | | | | | | | | | | 6.7E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.7E-06 |

TABLE 8.14.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Chloroform | 1.0E+00 | µg/L | 1.9E-04 | $mg/m^3$ | R | 5.9E-08 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.8E-09 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 8.9E-05 | $mg/m^3$ | R | 2.7E-08 | mg/kg-day | 2.0E-01 | $(mg/kg\text{-}day)^{-1}$ | 5.4E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 9.4E-05 | $mg/m^3$ | R | 2.9E-08 | mg/kg-day | 5.6E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.6E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 7.4E-05 | $mg/m^3$ | R | 2.3E-08 | mg/kg-day | 2.4E-03 | $(mg/kg\text{-}day)^{-1}$ | 5.4E-11 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 8.6E-05 | $mg/m^3$ | R | 2.6E-08 | mg/kg-day | 7.6E-01 | $(mg/kg\text{-}day)^{-1}$ | 2.0E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 1.0E-04 | $mg/m^3$ | R | 3.1E-08 | mg/kg-day | 9.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.8E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 9.8E-05 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | N/A | | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 9.2E-05 | $mg/m^3$ | R | 2.8E-08 | mg/kg-day | N/A | | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 9.2E-05 | $mg/m^3$ | R | 2.8E-08 | mg/kg-day | 2.2E-02 | $(mg/kg\text{-}day)^{-1}$ | 6.1E-10 |
| | Benzene | 5.0E-01 | µg/L | 1.1E-04 | $mg/m^3$ | R | 3.3E-08 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 9.5E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 8.9E-05 | $mg/m^3$ | R | 2.7E-08 | mg/kg-day | N/A | | |
| | Bromoform | 5.0E-01 | µg/L | 8.0E-05 | $mg/m^3$ | R | 2.4E-08 | mg/kg-day | 3.9E-03 | $(mg/kg\text{-}day)^{-1}$ | 9.5E-11 |
| | Bromomethane | 5.0E-01 | µg/L | 1.0E-04 | $mg/m^3$ | R | 3.1E-08 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 9.1E-05 | $mg/m^3$ | R | 2.8E-08 | mg/kg-day | 5.3E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.5E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 8.4E-05 | $mg/m^3$ | R | 2.6E-08 | mg/kg-day | N/A | | |
| | Tetrachloroethene | 5.0E-01 | µg/L | 8.9E-05 | $mg/m^3$ | R | 2.7E-08 | mg/kg-day | 1.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.7E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 1.1E-04 | $mg/m^3$ | R | 3.5E-08 | mg/kg-day | 1.5E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.2E-10 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 9.9E-05 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | 1.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.0E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 9.9E-05 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | 1.0E-02 | (mg/kg-day) -1 | 3.0E-10 |
| | (Total) | | | | | | | | | | 3.9E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.9E-08 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.14.UA.RME Supplement**
**Inhalation of Volatiles from Groundwater During Construction**
**Inhalation Exposure Concentrations Calculated Using a Two-Film Volatilization Model**
**Future Construction Worker Senario**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Cw (µg/L) | MW (mol/gram) | $K_H$ (unitless) | $k_l$ (cm/hr) | $k_g$ (cm/hr) | $K_v$ (cm/hr) | ER (mg/hr) | ERa (g/sec-m$^2$) | Ca (µg/m$^3$) |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.0E+00 | 119 | 1.50E-01 | 4.56E-02 | 1.92E+03 | 4.56E-02 | 4.56E-08 | 1.27E-10 | 1.94E-04 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 168 | 1.41E-02 | 4.18E-02 | 1.76E+03 | 4.17E-02 | 2.09E-08 | 5.80E-11 | 8.87E-05 |
| 11,2-Trichloroethane | 5.0E-01 | 133 | 3.74E-02 | 4.43E-02 | 1.87E+03 | 4.43E-02 | 2.22E-08 | 6.15E-11 | 9.41E-05 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 236 | 2.49E-04 | 3.84E-02 | 1.62E+03 | 3.51E-02 | 1.75E-08 | 4.87E-11 | 7.45E-05 |
| 1,2-Dibromoethane | 5.0E-01 | 190 | 1.33E-02 | 4.06E-02 | 1.71E+03 | 4.05E-02 | 2.02E-08 | 5.62E-11 | 8.60E-05 |
| 1,2-Dichloroethane | 5.0E-01 | 99 | 4.10E-02 | 4.77E-02 | 2.01E+03 | 4.77E-02 | 2.39E-08 | 6.63E-11 | 1.01E-04 |
| 1,2-Dichloropropane | 5.0E-01 | 113 | 1.15E-01 | 4.62E-02 | 1.95E+03 | 4.62E-02 | 2.31E-08 | 6.41E-11 | 9.81E-05 |
| 1,3-Dichlorobenzene | 5.0E-01 | 147 | 9.96E-02 | 4.32E-02 | 1.82E+03 | 4.32E-02 | 2.16E-08 | 6.00E-11 | 9.19E-05 |
| 1,4-Dichlorobenzene | 5.0E-01 | 147 | 9.96E-02 | 4.32E-02 | 1.82E+03 | 4.32E-02 | 2.16E-08 | 6.00E-11 | 9.19E-05 |
| Benzene | 5.0E-01 | 78.11 | 2.28E-01 | 5.06E-02 | 2.13E+03 | 5.06E-02 | 2.53E-08 | 7.03E-11 | 1.08E-04 |
| Bromodichloromethane | 5.0E-01 | 164 | 6.56E-02 | 4.21E-02 | 1.77E+03 | 4.21E-02 | 2.10E-08 | 5.84E-11 | 8.94E-05 |
| Bromoform | 5.0E-01 | 252.8 | 2.19E-02 | 3.78E-02 | 1.59E+03 | 3.77E-02 | 1.89E-08 | 5.24E-11 | 8.01E-05 |
| Bromomethane | 5.0E-01 | 95 | 6.20E-03 | 4.82E-02 | 2.03E+03 | 4.80E-02 | 2.40E-08 | 6.67E-11 | 1.02E-04 |
| Carbon tetrachloride | 5.0E-01 | 154 | 1.25E+00 | 4.27E-02 | 1.80E+03 | 4.27E-02 | 2.14E-08 | 5.94E-11 | 9.08E-05 |
| Dibromochloromethane | 5.0E-01 | 208 | 3.21E-02 | 3.96E-02 | 1.67E+03 | 3.96E-02 | 1.98E-08 | 5.50E-11 | 8.42E-05 |
| Tetrachloroethene | 5.0E-01 | 166 | 7.54E-01 | 4.19E-02 | 1.77E+03 | 4.19E-02 | 2.10E-08 | 5.83E-11 | 8.91E-05 |
| Vinyl chloride | 5.0E-01 | 63 | 1.11E+00 | 5.34E-02 | 2.25E+03 | 5.34E-02 | 2.67E-08 | 7.42E-11 | 1.14E-04 |
| cis-1,3-Dichloropropene | 5.0E-01 | 111 | 7.26E-01 | 4.64E-02 | 1.95E+03 | 4.64E-02 | 2.32E-08 | 6.44E-11 | 9.86E-05 |
| trans-1,3-Dichloropropene | 5.0E-01 | 111 | 7.26E-01 | 4.64E-02 | 1.95E+03 | 4.64E-02 | 2.32E-08 | 6.44E-11 | 9.86E-05 |

**Equations**

| | |
|---|---|
| Equation 1 | $Kv = 1/(1/k_l + 1/K_H{*}K_g)$ |
| Equation 2 | $k_g = 700(18/MW)^{1/4}V$ |
| Equation 3 | $k_l = (32/MW)^{1/4}Ka'$ |
| Equation 4 | ER = Kv * Cw * L/1000 cm$^3$ * mg/1000 µg |
| Equation 5 | ERa = ER * g/1000 mg * 10000cm$^2$/m$^2$ * hr/60 min * min/60 sec |

| Variables | Units | Exposure Assumptions |
|---|---|---|
| Cw = groundwater concentration | (mg/L) | chem-specific |
| MW = molecular weight | (mol/gram) | chem-specific |
| $K_H$ - Henry's Law Constant | (unitless) | chem-specific |
| Kv = volatilization rate | (cm/hr) | Solved by Eq 1 |
| $k_g$ = gas phase transfer coefficient | (cm/hr) | Solved by Eq 2 |
| $k_l$ = liquid phase transfer coefficient | (cm/hr) | Solved by Eq 3 |
| V = wind speed | (m/s) | 4.4 |
| Ka' = aeration rate | (cm/hr) | 0.0633 |
| ER = emission rate | (mg/hr) | Solved by Eq 4 |
| A = area of excavation (utility ditch) Length = 18 m, width = 2 m | (m$^2$) | 36 |
| Era = area emission rate | (g/sec-m$^2$) | Solved by Eq 5 |
| Ca = air concentration | (mg/m$^3$) | Solved using SCREEN3 model |

Note: aeration rate based on aeration rate for small pond (0.1/day) multiplied by depth of water in excavation (1/2 ft)

TABLE 8.15.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 2.3E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.5E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 1.2E-09 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.9E-07 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.9E-07 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.6E-07 |
| | (Total) | | | | | | | | | | 6.1E-06 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 9.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.4E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.4E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.0E-06 |
| | (Total) | | | | | | | | | | 5.5E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.2E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.16.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 5.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.1E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 2.7E-09 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 6.6E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 6.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 6.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | (Total) | | | | | | | | | | 1.4E-05 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 3.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | (Total) | | | | | | | | | | 1.8E-06 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 1.6E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.17.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 7.7E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 3.9E-09 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 9.4E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 9.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 9.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.5E-06 |
| | (Total) | | | | | | | | | | 2.0E-05 |
| Dermal | Arsenic | 4.9E+00 | mg/kg | 4.9E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.9E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.9E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Dibenzo(a,h)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Hexachlorobenzene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.0E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | (Total) | | | | | | | | | | 7.3E-06 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 2.8E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.18.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.9E+00 | mg/kg | 3.7E-09 | $mg/m^3$ | R | 3.5E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 5.2E-09 |
| | Chloroform | 2.5E-03 | mg/kg | 1.9E-12 | $mg/m^3$ | R | 1.8E-13 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.4E-14 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.6E-11 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.6E-11 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.8E-11 |
| | (Total) | | | | | | | | | | 5.3E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.3E-09 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.18.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.19.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.9E+00 | mg/kg | 3.7E-09 | $mg/m^3$ | R | 2.4E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.7E-09 |
| | Chloroform | 2.5E-03 | mg/kg | 1.1E-06 | $mg/m^3$ | R | 7.2E-08 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.8E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.1E-11 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 8.0E-06 | $mg/m^3$ | R | 5.2E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.8E-07 |
| | (Total) | | | | | | | | | | 5.9E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.9E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.19.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
*MCAS Cherry Point, OU5 Site 1*

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.20.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 1 Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.9E+00 | mg/kg | 3.7E-09 | $mg/m^3$ | R | 5.9E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 9.0E-09 |
| | Chloroform | 2.5E-03 | mg/kg | 1.1E-06 | $mg/m^3$ | R | 1.7E-07 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.4E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 2.8E-11 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 8.0E-06 | $mg/m^3$ | R | 1.3E-06 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.4E-06 |
| | (Total) | | | | | | | | | | 1.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.21.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 3.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.6E-06 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 1.9E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 1.9E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 2.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.9E-07 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.9E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.6E-07 |
| | (Total) | | | | | | | | | | 7.1E-06 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 7.4E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.3E-10 |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.4E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.4E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.0E-06 |
| | (Total) | | | | | | | | | | 5.7E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.3E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.22.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 7.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 4.4E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 4.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 6.6E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 6.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 6.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | (Total) | | | | | | | | | | 1.7E-05 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 4.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.1E-07 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 2.5E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-10 |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | (Total) | | | | | | | | | | 1.9E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.8E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.23.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 6.3E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 6.3E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.3E-09 |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 9.4E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 9.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 9.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.5E-06 |
| | (Total) | | | | | | | | | | 2.4E-05 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 1.6E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 9.9E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | 2-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.9E-09 |
| | 4-Nitroaniline | 6.0E-01 | mg/kg | 6.0E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.9E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | (Total) | | | | | | | | | | 7.6E-06 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 3.1E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.24.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 7.1E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | 4.3E-11 | mg/kg-day | N/A | | |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 2.5E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | (Total) | | | | | | | | | | 1.6E-07 |
| Dermal | Arsenic | 6.6E+00 | mg/kg | 6.6E+00 | mg/kg | M | 5.6E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.4E-09 |
| | Chloroform | 4.0E-03 | mg/kg | 4.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | Acetophenone | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.5E-10 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.5E-10 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Dibenzo(a,h,)anthracene | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 8.5E-10 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | n-Nitroso-di-n-propylamine | 2.3E-01 | mg/kg | 2.3E-01 | mg/kg | M | 6.5E-10 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.6E-09 |
| | (Total) | | | | | | | | | | 2.5E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.9E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.25.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 5.0E-08 | $mg/m^3$ | R | 4.7E-09 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 7.1E-08 |
| | Chloroform | 4.0E-03 | mg/kg | 1.7E-06 | $mg/m^3$ | R | 1.6E-07 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.3E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-09 | $mg/m^3$ | R | 1.6E-10 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 8.0E-06 | $mg/m^3$ | R | 7.5E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 8.2E-07 |
| | (Total) | | | | | | | | | | 9.0E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.0E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.25.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.26.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 5.0E-09 | $mg/m^3$ | R | 3.3E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 5.0E-09 |
| | Chloroform | 4.0E-03 | mg/kg | 1.7E-06 | $mg/m^3$ | R | 1.1E-07 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 9.3E-09 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 1.1E-11 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 8.0E-06 | $mg/m^3$ | R | 5.2E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.8E-07 |
| | (Total) | | | | | | | | | | 5.9E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.9E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.26.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.27.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 5.0E-09 | $mg/m^3$ | R | 8.0E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.2E-08 |
| | Chloroform | 4.0E-03 | mg/kg | 1.7E-06 | $mg/m^3$ | R | 2.8E-07 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.3E-08 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.7E-10 | $mg/m^3$ | R | 2.8E-11 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.3E-01 | mg/kg | 8.0E-06 | $mg/m^3$ | R | 1.3E-06 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.4E-06 |
| | (Total) | | | | | | | | | | 1.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.27.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 1***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.28.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 6.6E+00 | mg/kg | 4.1E-06 | $mg/m^3$ | R | 1.2E-09 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.9E-08 |
| | Chloroform | 4.0E-03 | mg/kg | 1.7E-06 | $mg/m^3$ | R | 5.3E-10 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.3E-11 |
| | Acetophenone | 2.3E-01 | mg/kg | 1.4E-07 | $mg/m^3$ | R | 4.3E-11 | mg/kg-day | N/A | | |
| | (Total) | | | | | | | | | | 1.9E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.9E-08 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.28.UA.RME Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
*MCAS Cherry Point, OU5 Site 1*

| Chemical | Diffusivity in Air ($D_I$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_W$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Chloroform | 1.04E-01 | 1.50E-01 | 1.00E-05 | 3.98E+01 | 2.39E-01 | 7.92E+03 | 2.26E-03 | 2.30E+03 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| Benzo(a)pyrene | | | | | | | | |
| Dibenzo(a,h,)anthracene | 2.02E-02 | 6.03E-07 | 5.18E-06 | 3.80E+06 | 2.28E+04 | 2.49E-03 | 1.47E-12 | 9.01E+07 |
| n-Nitroso-di-n-propylamine | 5.45E-02 | 9.23E-05 | 8.17E-06 | 2.40E+01 | 1.44E-01 | 9.89E+03 | 1.31E-06 | 9.54E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_I * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.29.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.5E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.7E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 7.1E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.3E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 4.9E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 6.6E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.1E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 5.7E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.9E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.9E-10 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.1E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.1E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.4E-08 |

TABLE 8.29.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.6E-10 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.7E-09 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.6E-10 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.3E-10 |
| | (Total) | | | | | | | | | | 1.4E-06 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.5E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.4E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.4E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.2E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 7.3E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.0E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 8.6E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.1E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.1E-06 | mg/kg-day | N/A | N/A | |

TABLE 8.29.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 4.3E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| Dermal | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 3.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.7E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 4.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.6E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.1E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.0E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.7E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.9E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.8E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 7.1E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.1E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.1E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.5E-03 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.3E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.2E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.4E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 6.6E-07 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.5E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.5E-08 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.3E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.6E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.9E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 9.5E-06 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.7E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.5E-07 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 6.1E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.5E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | (Total) | | | | | | | | | | 2.6E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.6E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.29A.UA.RME Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| 2,4-Dinitrotoluene | 3.0E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 4.5E-08 | 2 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 3.0E-08 | 2 |
| 2-Methylnaphthalene | 3.0E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.4E-06 | 3 |
| 2-Nitroaniline | 1.3E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.3E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 1.1E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.3E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 6.5E-07 | 2 |
| 4-Nitroaniline | 1.3E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 1.1E-07 | 3 |
| Acenaphthylene | 3.0E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.3E-06 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.9E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 3.0E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.7E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.8E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 9.0E-07 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 5.5E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.3E-06 | 2 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 6.8E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.6E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 3 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.6E-05 | 2 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 2.1E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.9E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.4E-08 | 3 |
| n-Nitrosodiphenylamine | 3.0E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 9.7E-08 | 2 |
| Mercury | #REF! | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | #REF! | 1 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 8.29.UA.RME Supplement B
Calculation of DAevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

You need to put in the value of MW and log Kow for each chemical

TABLE 8.30.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.9E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.8E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 8.3E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 6.2E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.7E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 7.7E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 6.6E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.4E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.8E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.4E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.8E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 4.0E-10 |

TABLE 8.30.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 8.8E-08 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.7E-10 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 6.6E-09 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 6.0E-08 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.7E-10 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.8E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.5E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | (Total) | | | | | | | | | | 1.6E-06 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | cis-1,3-dichloropropene. | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 2,4,6-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.5E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.5E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.1E-08 | mg/kg-day | N/A | N/A | |

TABLE 8.30.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.4E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.6E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.6E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.9E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.5E-04 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.6E-05 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.5E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.3E-06 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.7E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.1E-04 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 9.2E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.9E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.0E-07 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.1E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.5E-05 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 4.4E-06 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.9E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.9E-08 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 8.0E-10 |
| | (Total) | | | | | | | | | | 1.2E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.2E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.30A.UA.RME Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 0.0E+00 | 2.6 | 8.7E-09 | 3 |
| cis-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 7.6E-09 | 3 |
| trans-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| 2,4-Dinitrotoluene | 3.0E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 4.5E-08 | 2 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 3.0E-08 | 2 |
| 2-Methylnaphthalene | 3.0E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.4E-06 | 3 |
| 2-Nitroaniline | 1.3E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.3E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 1.1E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.3E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 6.5E-07 | 2 |
| 4-Nitroaniline | 1.3E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 1.1E-07 | 3 |
| Acenaphthylene | 3.0E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.3E-06 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.9E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 3.0E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.7E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.8E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 9.0E-07 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 5.5E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.3E-06 | 2 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 6.8E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.6E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 3 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.6E-05 | 2 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 2.1E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.9E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.4E-08 | 3 |
| n-Nitrosodiphenylamine | 3.0E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 9.7E-08 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^2$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 l/cm$^2$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 8.30.UA.RME Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

You need to put in the value of MW and log Kow for each chemical

TABLE 8.31.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 7.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | 2,4,5-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 4.6E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 4.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 4.6E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 4.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |

TABLE 6.31.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.7E-07 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 7.7E-09 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 7.7E-10 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.7E-07 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 8.2E-09 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.4E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | (Total) | | | | | | | | | | 3.1E-06 |
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.5E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.1E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.7E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.7E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.2E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 4.9E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 3.3E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 3.2E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 6.4E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |

TABLE 8.31.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | trans-1,3-dichloropropene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.0E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | 2,4,5-Trichlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.0E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | 2,4-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.4E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-07 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.5E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 6.3E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 7.9E-07 |
| | 3-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 5.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 4,6-Dinitro-2-methylphenol | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 3.4E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.3E+01 | µg/L | 1.3E+01 | µg/L | M | 5.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Acenaphthylene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 6.8E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.4E-05 |
| | Benzo(a)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.5E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-03 |
| | Benzo(b)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-04 |
| | Benzo(k)fluoranthene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.4E-04 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | Chrysene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 7.4E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| | Dibenz(a,h)anthracene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.1E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-03 |
| | Dibenzofuran | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 4.8E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.9E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.7E-05 |
| | Hexachlorobutadiene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 9.6E-07 |
| | Hexachloroethane | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 3.6E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.9E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-04 |
| | Naphthalene | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 2.6E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 8.7E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.4E-05 |
| | bis(2-Chloroethyl)ether | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | bis(2-Ethylhexyl)phthalate | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.6E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | n-Nitroso-di-n-propylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.9E-07 |
| | n-Nitrosodiphenylamine | 3.0E+00 | µg/L | 3.0E+00 | µg/L | M | 5.2E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | (Total) | | | | | | | | | | 3.7E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.7E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.31A.UA.RME Supplement
Calculation of Daevent
Resident, Child/Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 6.5E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| 2,4-Dinitrotoluene | 3.0E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 4.5E-08 | 2 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 3.0E-08 | 2 |
| 2-Methylnaphthalene | 3.0E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.4E-06 | 3 |
| 2-Nitroaniline | 1.3E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 1.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.3E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 1.1E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.3E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 6.5E-07 | 2 |
| 4-Nitroaniline | 1.3E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 1.1E-07 | 3 |
| Acenaphthylene | 3.0E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.3E-06 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.9E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 3.0E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.7E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.4E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.8E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 9.0E-07 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 5.5E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.3E-06 | 2 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 6.8E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.6E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 3 |
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.6E-05 | 2 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 2.1E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.9E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.4E-08 | 3 |
| n-Nitrosodiphenylamine | 3.0E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 9.7E-08 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 8.31.UA.RME Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

You need to put in the value of MW and log Kow for each chemical

TABLE 8.32.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 9.0E-07 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 2.0E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 2.0E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 2.0E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 7.9E-10 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 8.6E-10 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.9E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.9E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.5E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.7E-07 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.6E-08 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.5E-07 |
| | (Total) | | | | | | | | | | 2.6E-06 |

TABLE 8.32.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 3.4E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 1.1E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 9.6E-10 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 1.1E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 4.5E-10 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 3.8E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 3.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.5E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 3.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.5E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 6.8E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.6E-07 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 9.4E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | | | | | | | | | | | 4.5E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.1E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.33.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-06 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 4.6E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 4.6E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.9E-09 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 4.6E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 4.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 4.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 4.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 4.6E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | (Total) | | | | | | | | | | 6.2E-06 |

TABLE 8.33.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.8E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.7E-05 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.9E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.0E-08 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 5.9E-08 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-05 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.5E-06 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 1.7E-06 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.4E-06 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-05 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.4E-06 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-05 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-05 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.4E-06 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 4.9E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 7.8E-06 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.6E-06 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.5E-05 |
| | | | | | | | | | | | 2.3E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.4E-04 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.34.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 2.0E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.0E-06 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.5E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.5E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-09 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.5E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.2E-07 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 6.5E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 7.9E-08 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | (Total) | | | | | | | | | | 8.8E-06 |

TABLE 8.34.UA.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.9E+00 | mg/kg | 9.9E+00 | mg/kg | M | 1.8E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.7E-05 |
| | Chloroform | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.0E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | Trichloroethene | 3.3E-02 | mg/kg | 3.3E-02 | mg/kg | M | 6.0E-08 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | 2,4,6-Trichlorophenol | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 9.6E-08 |
| | 2-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-05 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | 4-Nitroaniline | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 2.0E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | 3,3'-Dichlorobenzidine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.6E-06 |
| | Acetophenone | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | N/A | | |
| | Atrazine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Benzo(a)anthracene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.6E-06 |
| | Benzo(a)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.6E-05 |
| | Benzo(b)fluoranthene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.6E-06 |
| | Dibenz(a,h)anthracene | 3.3E-01 | mg/kg | 3.3E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-05 |
| | Hexachlorobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-05 |
| | Indeno(1,2,3-cd)pyrene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 1.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.6E-06 |
| | Nitrobenzene | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 3.3E+00 | mg/kg | 3.3E+00 | mg/kg | M | 5.0E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 8.0E-06 |
| | bis(2-Chloroethyl)ether | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.8E-06 |
| | n-Nitroso-di-n-propylamine | 1.3E+00 | mg/kg | 1.3E+00 | mg/kg | M | 8.0E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.6E-05 |
| | | | | | | | | | | | 2.4E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.5E-04 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.35.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 3.1E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.6E-09 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.7E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.8E-11 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.1E-10 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 7.6E-11 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.7E-11 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.4E-09 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.2E-11 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 7.0E-11 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.4E-11 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-11 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-11 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.7E-11 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | N/A | |

TABLE 8.35.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reads Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.9E-09 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.5E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.5E-10 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-09 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-09 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.1E-11 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.9E-09 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.0E-11 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-09 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.0E-11 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.0E-08 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.1E-11 |
| | (Total) | | | | | | | | | | 1.3E-07 |
| Dermal | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 4.5E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.8E-09 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.9E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.6E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.7E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.8E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.3E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.4E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-09 |

TABLE 8.35.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.3E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-09 | 6.8E-01 | 7.2E-01 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.3E-09 | 6.8E-01 | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.3E-09 | 6.8E-01 | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 5.3E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.9E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.6E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.1E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.2E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.3E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.6E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.6E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.6E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.8E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.9E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.1E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.2E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 6.5E-07 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.4E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.3E-08 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.1E-10 |
| | (Total) | | | | | | | | | | 1.7E-04 |

Total Risk Across All Exposure Routes/Pathways 1.7E-04

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.35.A.UA Supplement
Calculation of Daevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.8E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 4 | 7.4E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 4 | 1.7E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 4 | 2.0E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 4 | 1.7E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 4 | 1.7E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 4 | 6.5E-09 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 4 | 1.0E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 4 | 1.9E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 4 | 3.3E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 4 | 1.3E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 4 | 4.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 4 | 9.0E-09 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 4 | 9.1E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 0.0E+00 | 4 | 1.3E-08 | 3 |
| cis-1,2-dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 4 | 1.1E-08 | 3 |
| trans-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 4 | 6.4E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 4 | 5.9E-07 | 3 |
| 2,4-Dinitrotoluene | 2.6E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 4 | 5.0E-08 | 3 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 4 | 3.4E-08 | 3 |
| 2-Methylnaphthalene | 2.6E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 4 | 1.5E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 4 | 1.3E-07 | 3 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 4 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 4 | 1.2E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 4 | 6.5E-07 | 3 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 4 | 1.2E-07 | 3 |
| Acenaphthylene | 2.6E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 4 | 1.4E-06 | 3 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.2E-05 | 2 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.6E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 4 | 2.4E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 4 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 4 | 9.6E-07 | 3 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 4 | 4.9E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 4 | 2.2E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 4 | 6.8E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 4 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 4 | 5.6E-07 | 3 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 4 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 4 | 2.5E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 4 | 2.6E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 4 | 2.8E-08 | 3 |
| n-Nitrosodiphenylamine | 2.6E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 4 | 1.0E-07 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/$\pi$)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 8.35.UA.RME Supplement B
Calculation of DAevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.36.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 1.8E+00 | µg/L | 2.5E+00 | µg/L | M | 9.6E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.5E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.6E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.9E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.5E-10 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.4E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 6.0E-09 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.4E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.8E-09 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.8E-08 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.8E-09 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 9.8E-10 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.8E-11 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.8E-08 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.8E-09 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | Pentachorphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 6.6E-11 |
| | (Total) | | | | | | | | | | 3.9E-07 |

TABLE 8.36.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 5.9E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.8E-09 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 6.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.9E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 5.8E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | 2-hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.9E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.5E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.7E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.8E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 6.8E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.8E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 6.8E-10 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.1E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.7E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.0E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.8E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.9E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.2E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.2E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.8E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.1E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.0E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.9E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.1E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 8.6E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.9E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | (Total) | | | | | | | | | | 6.4E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.4E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.36.A.UA Supplement
Calculation of Daevent
Trespasser/Visitor, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.8E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 0.0E+00 | 2.6 | 8.7E-09 | 3 |
| cis-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 4.6E-08 | 3 |
| trans-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 0.0E+00 | 2.6 | 4.6E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 2 |
| 2,4-Dinitrotoluene | 2.6E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.9E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.6E-08 | 2 |
| 2-Methylnaphthalene | 2.6E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.5E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.9E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.6E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.2E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.8E-08 | 3 |
| Acenaphthylene | 2.6E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.6E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.3E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.7E-07 | 3 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.7E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.0E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.9E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.2E-07 | 3 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.1E-08 | 3 |
| n-Nitrosodiphenylamine | 2.6E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 8.4E-08 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm³ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 l/cm³ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x $\tau_{event}$ x ((1 + 3xB + 3x$B^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

TABLE 8.37.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.2E-06 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 9.3E-07 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.0E-07 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 6.5E-09 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 6.9E-08 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.3E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 5.9E-07 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | |

TABLE 8.37.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.2E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.2E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.2E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.2E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.2E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.0E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.2E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.8E-06 |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 7.9E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.0E+00 | N/A | |
| | (Total) | | | | | | | | | | 9.8E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.8E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.38.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-05 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 2.1E-06 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.6E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 9.5E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |

TABLE 8.38.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.4E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.5E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.5E-07 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.1E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 7.1E-07 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 7.1E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.1E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 7.6E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 1.8E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-06 | mg/kg-day | 7.0E+00 | N/A | |
| | (Total) | | | | | | | | | | 2.2E-04 |

TABLE 8.38.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-07 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 7.7E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.8E-07 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.5E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.3E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 5.7E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-06 | mg/kg-day | N/A | | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 2.7E-08 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.9E-07 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 8.3E-09 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-07 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.4E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.2E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 8.7E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.3E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.3E-09 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-07 | mg/kg-day | N/A | | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.0E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 9.9E-08 |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.9E-07 | mg/kg-day | N/A | | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-06 | mg/kg-day | N/A | | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.1E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |

TABLE 8.38.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.4E-06 | mg/kg-day | N/A | | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-07 | mg/kg-day | N/A | | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.2E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.3E-04 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.8E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.0E-03 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.1E-04 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.3E-04 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.6E-05 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.2E-04 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.0E-02 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-05 | mg/kg-day | N/A | | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-04 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.0E-04 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.8E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.8E-06 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.7E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.3E-04 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.5E-06 | mg/kg-day | N/A | | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.4E-07 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-04 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 6.1E-05 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.9E-07 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.0E-07 | mg/kg-day | 1.0E+00 | (mg/kg-day) $^{-1}$ | 5.0E-07 |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 1.2E-04 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.7E-06 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.3E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | (Total) | | | | | | | | | | 1.7E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways 1.7E-02

Table 8.38A.UA.CT Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 8.3E-10 | 1 |
| Chloroform | 5.6E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 5.1E-09 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 7.0E-09 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | [illegible] |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.6E-08 | 2 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.3E-07 | 2 |
| 2,4-Dinitrophenol | 1.0E+01 | 1.5E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 3.5E-03 | 0.33 | 4.1E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.4E-08 | 2 |
| 2-Chlorophenol | 2.6E+00 | 1.2E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 4.9E-08 | 2 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 3.9E-08 | 2 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.5E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 0.33 | 3.0E-07 | 2 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 0.33 | 1.6E-08 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 0.33 | 3.6E-08 | 2 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.2E-05 | 2 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 0.33 | 2.3E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 4.9E-07 | 2 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 4.5E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 1.8E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 4.5E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 0.33 | 3.2E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 2.0E-07 | [illegible] |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 2.0E-08 | [illegible] |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.4E-05 | 2 |

Table 8.38A.UA.CT Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent ($mg/cm^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 0.33 | 7.0E-09 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-03 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.4E+01 | 0.33 | 1.8E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 4.8E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 0.33 | 4.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 0.33 | 8.4E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x $\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 $l/cm^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =

TABLE 8.39.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.0E-05 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 3.0E-06 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.3E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.7E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 6.4E-08 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | N/A | N/A | |

TABLE 8.39.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 6.3E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | 2.0E-02 | 1 $^{-1}$ | 1.1E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.0E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.0E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.0E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.2E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.7E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 2.5E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.6E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.0E+00 | N/A | |
| | (Total) | | | | | | | | | | 3.2E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.2E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.40.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.6E-09 |
| | Chloroform | 5.6E-01 | µg/L | 5.6E-01 | µg/L | M | 4.1E-09 | mg/kg-day | N/A | | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.8E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.7E-10 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.9E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.1E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 9.9E-11 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-09 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 1.0E-11 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.0E-10 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.2E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 6.7E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 9.1E-11 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-10 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.3E-09 | mg/kg-day | N/A | | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.3E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.7E-09 | mg/kg-day | N/A | | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.0E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.3E-08 | mg/kg-day | N/A | | |

TABLE 8.4b.0A.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.6E-09 | mg/kg-day | N/A | | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.6E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.3E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.1E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.2E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.0E-08 | mg/kg-day | N/A | | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-09 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-09 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-09 | mg/kg-day | 1.0E+00 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | bis(2-Ethylhexyl)phthalate | 4.8E+00 | µg/L | 4.8E+00 | µg/L | M | 3.7E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.0E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.8E-08 |
| | | | | | | | | | | | 8.6E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways 8.6E-05

Table 8.40A.UA Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (mg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (t) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm2-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.4E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 4 | 2.0E-08 | 1 |
| Chloroform | 1.0E+00 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 4 | 3.4E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 4 | 2.0E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 4 | 1.7E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 4 | 1.7E-08 | 3 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 4 | 6.5E-09 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 4 | 1.0E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 4 | 1.9E-08 | 3 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 4 | 1.4E-07 | 3 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 4 | 1.1E-07 | 3 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 4 | 3.2E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 4 | 1.3E-08 | 3 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 4 | 1.1E-08 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 4 | 6.6E-09 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 4 | 4.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 4 | 9.0E-09 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 4 | 9.1E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 4 | 1.3E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 4 | 1.1E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 4 | 1.1E-08 | 3 |
| 2,2'-Oxybis(1-chloropropane) | 3.0E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 4 | 7.7E-08 | 3 |
| 2,4,6-Trichlorophenol | 3.0E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 4 | 6.9E-07 | 3 |
| 2,4-Dinitrophenol | 1.1E+01 | 1.5E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 3.5E-03 | 4 | 1.0E-07 | 3 |
| 2,6-Dinitrotoluene | 3.0E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 4 | 3.9E-08 | 3 |
| 2-Chlorophenol | 3.0E+00 | 1.2E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 4 | 1.8E-07 | 3 |
| 2-Nitroaniline | 1.1E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 4 | 1.4E-07 | 3 |
| 3,3'-Dichlorobenzidine | 3.0E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 4 | 3.8E-07 | 3 |
| 3-Nitroaniline | 1.1E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 4 | 1.2E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.1E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 4 | 6.8E-07 | 3 |
| 4-Methylphenol | 3.0E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 4 | 7.1E-08 | 3 |
| 4-Nitroaniline | 1.1E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 4 | 1.3E-07 | 3 |
| Benzo(a)anthracene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.5E-05 | 2 |
| Benzo(a)pyrene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.9E-05 | 2 |
| Benzo(b)fluoranthene | 3.0E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 4 | 3.0E-05 | 2 |
| Benzo(k)fluoranthene | 3.0E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 4 | 2.7E-05 | 2 |
| Chrysene | 3.0E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.5E-05 | 2 |
| Dibenz(a,h)anthracene | 3.0E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 4 | 5.8E-05 | 2 |
| Dibenzofuran | 3.0E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 4 | 1.1E-06 | 3 |
| Hexachlorobenzene | 3.0E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 4 | 5.8E-06 | 2 |
| Hexachlorobutadiene | 3.0E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 4 | 2.5E-06 | 3 |
| Hexachloroethane | 3.0E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 4 | 7.9E-07 | 3 |
| Indeno(1,2,3-cd)pyrene | 3.0E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 4 | 3.7E-05 | 2 |
| Naphthalene | 3.0E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 4 | 6.6E-07 | 3 |
| Nitrobenzene | 3.0E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 4 | 8.0E-08 | 3 |

Table 8.40A.UA Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Groundwater Water Concentration (CW) (mg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (t) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm2-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Pentachlorophenol | 3.0E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 4 | 1.7E-05 | 2 |
| bis(2-Chloroethoxy)methane | 3.0E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 4 | 2.1E-08 | 3 |
| bis(2-Chloroethyl)ether | 3.0E+00 | 1.8E-03 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.6E+00 | 4 | 2.3E-08 | 3 |
| bis(2-Ethylhexyl)phthalate | 3.0E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 4 | 3.0E-06 | 2 |
| n-Nitroso-di-n-propylamine | 3.0E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 4 | 3.3E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm3 (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x tevent x tevent)/p)) x 0.001 mg/ug x 0.001 l/cm3 (eq 2)

Table 8.40.UA.RME Supplement B
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | $t^*$[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.41.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 1.5E-10 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.8E-08 |
| | (Total) | | | | | | | | | | 4.7E-07 |
| Dermal | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 8.9E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 6.4E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 6.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 6.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.1E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.8E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | (Total) | | | | | | | | | | 8.6E-07 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 1.3E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.42.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 8.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 9.2E-10 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 7.6E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | (Total) | | | | | | | | | | 2.9E-06 |
| Dermal | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.7E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 5.6E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 5.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 5.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.5E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | (Total) | | | | | | | | | | 7.5E-07 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 3.7E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.43.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 1 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 9.4E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.1E-09 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.1E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.9E-07 |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.9E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.8E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.6E-07 |
| | (Total) | | | | | | | | | | 3.4E-06 |
| Dermal | Arsenic | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.7E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | Chloroform | 2.5E-03 | mg/kg | 2.5E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.6E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.6E-07 | mg/kg-day | 4.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.6E-07 | mg/kg-day | 4.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 2.4E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 2.4E+01 | (mg/kg-day) $^{-1}$ | 3.3E-06 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 2.2E+00 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.4E+01 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | (Total) | | | | | | | | | | 5.9E-06 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 9.3E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.44.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Chloroform | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.8E-10 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.7E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.6E-08 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.6E-08 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | (Total) | | | | | | | | | | 5.2E-07 |
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Chloroform | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.2E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 9.8E-11 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 6.8E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 6.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 6.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.0E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | (Total) | | | | | | | | | | 9.1E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.45.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | Chloroform | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 9.0E-10 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.3E-07 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.3E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | (Total) | | | | | | | | | | 3.3E-06 |
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Chloroform | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.0E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 8.6E-11 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.6E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | (Total) | | | | | | | | | | 7.9E-07 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 4.1E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.46.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Chloroform | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.3E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.2E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.2E-07 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.2E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 6.0E-07 |
| | (Total) | | | | | | | | | | 3.8E-06 |
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Chloroform | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 2.2E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | (Total) | | | | | | | | | | 1.7E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.5E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 6.47.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 5.5E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.3E-09 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 3.0E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 8.6E-11 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.0E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 6.0E-09 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 9.3E-11 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.3E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 7.8E-11 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-10 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 8.5E-11 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |

TABLE 8.47.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reads Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.8E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.1E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.3E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.1E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.3E-10 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.6E-11 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 9.3E-10 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.5E-09 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.4E-08 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.7E-09 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 3.8E-11 |
| | (Total) | | | | | | | | | | 2.3E-07 |
| Dermal | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 8.0E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.4E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.0E-08 |

TABLE 8.47.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.6E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.6E-09 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.1E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 8.9E-09 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.4E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.8E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.7E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.1E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.0E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.8E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.3E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.0E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.9E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.3E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.8E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.8E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.1E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.3E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.7E-06 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 6.6E-10 |
| | (Total) | | | | | | | | | | 1.0E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.0E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.47.UA.CT Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.8E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 4.5E-08 | 3 |
| trans-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 4.5E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 2 |
| 2,4-Dinitrotoluene | 2.6E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.9E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.6E-08 | 2 |
| 2-Methylnaphthalene | 2.6E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.5E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.9E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.6E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.2E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.8E-08 | 3 |
| Acenaphthylene | 2.6E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.6E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.3E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.7E-07 | 3 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.7E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.0E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.9E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.2E-07 | 3 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.1E-08 | 3 |
| n-Nitrosodiphenylamine | 2.6E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 8.4E-08 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x$\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x$\tau_{event}$ x ((1 + 3xB + 3xB$^2$)/(1+B)$^2$) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 8.47.UA.CT Supplement B
Calculation of DAevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

You need to put in the value of MW and log Kow for each chemical

TABLE 6.48.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 1.6E+00 | µg/L | 1.6E+00 | µg/L | M | 1.7E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 2.6E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 9.4E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 2.7E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 6.6E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 4.0E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 4.3E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 3.2E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.9E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 2.9E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 6.1E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 3.9E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 2.4E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 3.4E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.7E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.7E-10 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 2.6E-10 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.8E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 1.1E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 2.0E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.8E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 2.0E-09 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.8E-08 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.8E-08 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 1.8E-09 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 1.8E-10 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 3.9E-08 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 1.9E-09 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.4E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.8E-08 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 2.9E-09 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 2.6E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.4E-10 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day)$^{-1}$ | 1.2E-10 |
| | (Total) | | | | | | | | | | 7.0E-07 |

TABLE 8.48.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 3.6E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 5.4E-09 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 2.3E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.1E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 5.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.5E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 3.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 4.8E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.0E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 7.0E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.8E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 4.7E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.5E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 3.2E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 4.6E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.4E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 2.8E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.5E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 4.7E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.4E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 3.4E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.4E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 3.4E-09 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 4.0E-09 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.9E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.2E-07 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.2E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.2E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 9.7E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.5E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.9E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.6E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.9E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.4E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.9E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.4E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.7E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 1.3E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.1E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 6.6E-06 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 2.7E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.8E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.6E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 5.7E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 1.2E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.4E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 6.2E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.7E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.2E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day)$^{-1}$ | 1.7E-06 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 1.5E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.9E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 2.7E-08 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 1.1E-07 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.3E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day)$^{-1}$ | 3.1E-10 |
| | (Total) | | | | | | | | | | 4.6E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.6E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.4BA.UA.RME Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.8E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-09 | 1 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 2.6 | 1.2E-08 | 3 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl Chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 6.1E-01 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 4.5E-08 | 3 |
| trans-1,2-dichloropropene | 3.0E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 4.5E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.9E-07 | 2 |
| 2,4-Dinitrotoluene | 2.6E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.9E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.6E-08 | 2 |
| 2-Methylnaphthalene | 2.6E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.5E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.9E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.6E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.2E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.8E-08 | 3 |
| Acenaphthylene | 2.6E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.6E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.3E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.7E-07 | 3 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.7E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 2.0E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.9E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.2E-07 | 3 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.1E-08 | 3 |
| n-Nitrosodiphenylamine | 2.6E+00 | 6.1E-03 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 3.3E-02 | 2.6 | 8.4E-08 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm³ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x FA x Kp x CSW x (sqrt((6 x$\tau_{event}$ x tevent)/π)) x 0.001 mg/ug x 0.001 l/cm³ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
FA x Kp x CSW x ( tevent/(1+B) + 2 x$\tau_{event}$ x ((1 + 3xB + 3xB²)/(1+B)²) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E)
N/A - not available or not applicable.

Table 8.48.UA.CT Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

You need to put in the value of MW and log Kow for each chemical

TABLE 8.49.UA.CT
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 3.2E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.9E-08 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 5.0E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.5E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 8.0E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.5E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 7.4E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.6E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.8E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.8E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.8E-10 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.0E-10 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |

TABLE 8.49.UA.CT
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.3E-09 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.3E-10 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.2E-08 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.3E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.4E-09 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.0E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 6.3E-10 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.5E-08 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | (Total) | | | | | | | | | | 1.3E-06 |
| Dermal | Arsenic | 1.8E+00 | µg/L | 1.8E+00 | µg/L | M | 1.1E-11 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.7E-11 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-11 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-11 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.4E-12 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-11 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.2E-12 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-11 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.6E-11 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.9E-12 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.6E-12 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-11 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-12 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-11 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.6E-12 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.2E-11 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-11 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.1E-12 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.7E-11 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 7.5E-12 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-12 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-10 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 6.6E-12 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-11 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.1E-11 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-12 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-12 |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.0E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-11 |
| | 2,4-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.9E-11 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.4E-11 | mg/kg-day | N/A | N/A | |

TABLE 8.49.UA.CT
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2-Methylnaphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-09 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-10 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.9E-10 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.9E-10 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.8E-12 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-09 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.9E-10 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.9E-12 |
| | Acenaphthylene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.3E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.8E-08 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.7E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.0E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-07 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-09 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.7E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.1E-09 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.2E-10 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.7E-11 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.7E-10 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.9E-08 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 4.6E-09 |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-10 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.1E-10 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.3E-11 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-11 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.0E-10 |
| | n-Nitrosodiphenylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.7E-10 | mg/kg-day | 4.9E-03 | (mg/kg-day) $^{-1}$ | 8.4E-13 |
| | (Total) | | | | | | | | | | 1.2E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.6E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.50.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 2.1E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.2E-08 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.1E-10 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.1E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.8E-10 |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.1E-10 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.3E-11 |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 9.9E-09 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 7.8E-11 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 9.9E-09 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.0E-10 |
| | 3,3'-Dichlorobenzidine | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 9.9E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.4E-09 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | N/A | | |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 8.5E-10 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.8E-08 |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 4.1E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.0E-08 |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 9.8E-09 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 3.9E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.7E-08 |
| | (Total) | | | | | | | | | | 1.4E-07 |

TABLE 8.50.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 2.2E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.5E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 8.1E-10 |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 9.5E-10 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.4E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.8E-10 |
| | 3,3'-Dichlorobenzidine | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.4E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | N/A | | |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 8.5E-08 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | | | | | | | | | | | 5.0E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.4E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.51.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.8E-09 |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 6.1E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 6.1E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 3,3'-Dichlorobenzidine | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 6.1E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.8E-08 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | N/A | | |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 5.3E-09 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 6.1E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 7.3E-09 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.7E-08 |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | (Total) | | | | | | | | | | 8.9E-07 |

TABLE 8.51.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.9E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.8E-06 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 8.1E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.9E-08 |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 8.1E-08 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 2.9E-06 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 2.9E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | 3,3'-Dichlorobenzidine | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 2.9E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | | |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 1.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.3E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.0E-06 |
| | | | | | | | | | | | 4.2E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.3E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.52.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-09 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.1E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.1E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | 3,3'-Dichlorobenzidine | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.1E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.2E-08 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | N/A | | |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 2.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.1E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 8.5E-09 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | (Total) | | | | | | | | | | 1.0E-06 |

TABLE 8.52.UA.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 3.7E+00 | mg/kg | 3.7E+00 | mg/kg | M | 1.9E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.9E-06 |
| | Chloroform | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | NABS | mg/kg-day | N/A | | |
| | | | | | | M | | | | | |
| | 1,2-Dibromoethane | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 8.2E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | Trichloroethene | 1.6E-01 | mg/kg | 1.6E-01 | mg/kg | M | 8.2E-08 | mg/kg-day | 4.0E-01 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | 2,4,6-Trichlorophenol | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | 2-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.0E-06 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | 4-Nitroaniline | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.0E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | 3,3'-Dichlorobenzidine | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 3.0E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Acetophenone | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | N/A | | |
| | Atrazine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 2.2E-01 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Benzo(a)anthracene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Benzo(a)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Benzo(b)fluoranthene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Dibenz(a,h)anthracene | 7.0E-01 | mg/kg | 7.0E-01 | mg/kg | M | 1.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Hexachlorobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | Indeno(1,2,3-cd)pyrene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Nitrobenzene | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | N/A | | |
| | Pentachlorophenol | 1.7E+00 | mg/kg | 1.7E+00 | mg/kg | M | 7.4E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | bis(2-Chloroethyl)ether | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | n-Nitroso-di-n-propylamine | 6.7E-01 | mg/kg | 6.7E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.1E-06 |
| | | | | | | | | | | | 4.3E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.4E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 9.1.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Industrial Works
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 2.6E-06 | N/A | 1.3E-06 | 3.9E-06 | Arsenic | Skin, Vascular | 1.6E-02 | N/A | 8.1E-03 | 2.4E-02 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.4E-07 | N/A | 0.0E+00 | 2.4E-07 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.2E-09 | N/A | 7.1E-09 | 1.1E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.0E-03 | N/A | 3.3E-03 | 5.3E-03 |
| | | | 4-Nitroaniline | 4.2E-09 | N/A | 7.1E-09 | 1.1E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.0E-04 | N/A | 3.3E-04 | 5.3E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.3E-06 | N/A | 3.8E-06 | 6.1E-06 |
| | | | Benzo(a)pyrene | 5.9E-07 | N/A | 1.3E-06 | 1.9E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h)anthracene | 5.9E-07 | N/A | 1.3E-06 | 1.9E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.3E-07 | N/A | 2.2E-07 | 3.5E-07 | Hexachlorobenzene | Liver | 2.8E-04 | N/A | 4.8E-04 | 7.6E-04 |
| | | | bis(2-Chloroethyl)ether | 8.8E-08 | N/A | 1.5E-07 | 2.4E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 5.6E-07 | N/A | 9.5E-07 | 1.5E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 4.5E-06 | N/A | 5.2E-06 | 9.8E-06 | (Total) | | 1.8E-02 | N/A | 1.2E-02 | 3.1E-02 |
| Surface Soil | Air | Emissions from Site 1 Surface Soil | Arsenic | N/A | 1.3E-09 | N/A | 1.3E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chloroform | N/A | N/A | N/A | 0.0E+00 | Chloroform | Liver, Kidney | N/A | 8.2E-04 | N/A | 8.2E-04 |
| | | | Acetophenone | N/A | N/A | N/A | 0.0E+00 | Acetophenone | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 4.4E-12 | N/A | 4.4E-12 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | (Total) | N/A | 1.3E-09 | N/A | 1.3E-09 | (Total) | | N/A | 8.2E-04 | N/A | 8.2E-04 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 6.3E-08 | N/A | 3.8E-08 | 1.0E-07 | Arsenic | Skin, Vascular | 3.9E-04 | N/A | 2.3E-04 | 6.3E-04 |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.3E-06 | N/A | 1.1E-05 | 1.3E-05 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,1,2,2-Tetrachloroethane | 1.7E-09 | N/A | 8.4E-09 | 1.0E-08 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 3.9E-07 | N/A | 2.0E-06 | 2.4E-06 |
| | | | 1,1,2-Trichloroethane | 4.8E-10 | N/A | 2.1E-09 | 2.6E-09 | 1,1,2-Trichloroethane | Blood | 5.9E-06 | N/A | 2.6E-05 | 3.2E-05 |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-08 | N/A | 4.5E-08 | 5.6E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.1E-09 | N/A | 1.1E-08 | 1.8E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 7.6E-10 | N/A | 2.1E-09 | 2.9E-09 | 1,2-Dichloroethane | Liver | 7.8E-07 | N/A | 2.2E-06 | 2.9E-06 |
| | | | 1,2-Dichloropropane | 5.7E-10 | N/A | 3.0E-09 | 3.5E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 2.3E-06 | N/A | 5.4E-06 | 7.6E-06 |
| | | | Bromodichloromethane | 5.2E-10 | N/A | 1.7E-09 | 2.3E-09 | Bromodichloromethane | Kidney | 1.2E-06 | N/A | 3.9E-06 | 5.1E-06 |
| | | | Carbon tetrachloride | 1.1E-09 | N/A | 1.2E-08 | 1.3E-08 | Carbon tetrachloride | Liver | 3.4E-05 | N/A | 3.6E-04 | 4.0E-04 |

TABLE 9.1.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worke
Receptor Age: Adul

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Dibromochloromethane | 7.0E-10 | N/A | 1.5E-09 | 2.2E-09 | Dibromochloromethane | Liver | 1.2E-06 | N/A | 2.5E-06 | 3.6E-06 |
| | | | Tetrachloroethene | 4.4E-10 | N/A | 9.5E-09 | 1.0E-08 | Tetrachloroethene | Liver, Whole Body | 2.3E-06 | N/A | 5.1E-05 | 5.4E-05 |
| | | | Vinyl chloride | 6.0E-09 | N/A | 2.1E-08 | 2.7E-08 | Vinyl chloride | liver | 7.8E-06 | N/A | 2.0E-04 | 2.0E-04 |
| | | | cis-1,3-Dichloropropene | 8.4E-10 | N/A | 2.4E-09 | 3.2E-09 | cis-1,3-Dichloropropene | Skin | 7.8E-07 | N/A | 1.6E-05 | 1.7E-05 |
| | | | trans-1,3-Dichloropropene | 8.4E-10 | N/A | 2.4E-09 | 3.2E-09 | trans-1,3-Dichloropropene | Skin | 7.8E-07 | N/A | 1.6E-05 | 1.7E-05 |
| | | | 2,4,6-Trichlorophenol | 5.5E-10 | N/A | 1.4E-08 | 1.5E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 7.0E-05 | N/A | 1.7E-04 | 2.4E-04 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.4E-04 | N/A | 2.3E-04 | 3.7E-04 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin, Vascular | 7.0E-06 | N/A | 4.8E-04 | 4.9E-04 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.3E-08 | N/A | 3.0E-07 | 3.2E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.4E-09 | N/A | 6.4E-09 | 1.1E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.0E-03 | N/A | 3.0E-03 | 5.0E-03 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 6.1E-03 | N/A | 4.5E-02 | 5.1E-02 |
| | | | 4-Nitroaniline | 4.4E-09 | N/A | 6.6E-09 | 1.1E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.0E-04 | N/A | 3.1E-04 | 5.1E-04 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 3.7E-08 | N/A | 1.5E-05 | 1.5E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 3.7E-07 | N/A | 2.9E-04 | 2.9E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.7E-08 | N/A | 2.9E-05 | 2.9E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 3.7E-09 | N/A | 2.7E-06 | 2.7E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 3.7E-10 | N/A | 1.5E-07 | 1.5E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.7E-07 | N/A | 5.4E-04 | 5.4E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 3.5E-05 | N/A | 1.5E-03 | 1.6E-03 |
| | | | Hexachlorobenzene | 6.1E-08 | N/A | 1.3E-05 | 1.3E-05 | Hexachlorobenzene | Liver | 1.8E-04 | N/A | 2.9E-02 | 2.9E-02 |
| | | | Hexachlorobutadiene | 3.9E-09 | N/A | 3.1E-07 | 3.1E-07 | Hexachlorobutadiene | Kidney | 7.0E-04 | N/A | 5.5E-02 | 5.6E-02 |
| | | | Hexachloroethane | 7.0E-10 | N/A | 1.9E-08 | 2.0E-08 | Hexachloroethane | Kidney | 1.4E-04 | N/A | 3.8E-03 | 4.0E-03 |
| | | | Indeno(1,2,3-cd)pyrene | 3.7E-08 | N/A | 3.5E-05 | 3.5E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 7.0E-06 | N/A | 2.0E-04 | 2.1E-04 |
| | | | Pentachlorophenol | 6.0E-09 | N/A | 3.6E-06 | 3.6E-06 | Pentachlorophenol | Liver, Kidney | 4.7E-06 | N/A | 2.1E-03 | 2.1E-03 |
| | | | bis(2-Chloroethyl)ether | 5.5E-08 | N/A | 7.0E-07 | 7.5E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 7.0E-10 | N/A | 5.8E-08 | 5.8E-08 | bis(2-Ethylhexyl)phthalate | Liver | 7.0E-06 | N/A | 5.8E-04 | 5.8E-04 |
| | | | n-Nitroso-di-n-propylamine | 3.5E-07 | N/A | 5.2E-07 | 8.7E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitrosodiphenylamine | 2.5E-10 | N/A | 1.2E-09 | 1.4E-09 | n-Nitrosodiphenylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.5E-06 | N/A | 9.3E-04 | 9.3E-04 | (Total) | | 1.0E-02 | N/A | 1.4E-01 | 1.5E-01 |

TABLE 9.1.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worke
Receptor Age: Adul

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.1E-07 | N/A | 1.6E-07 | 4.7E-07 | Arsenic | Skin, Vascular | 1.9E-03 | N/A | 9.9E-04 | 2.9E-03 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 1.9E-07 | N/A | 0.0E+00 | 1.9E-07 |
| | | | 1,2-Dibromoethane | 5.8E-10 | N/A | 2.9E-10 | 8.7E-10 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Trichloroethene | 2.7E-10 | N/A | 1.4E-10 | 4.1E-10 | Trichloroethene | Liver, Kidney, Fetus | 6.4E-06 | N/A | 3.2E-06 | 9.6E-06 |
| | | | 2,4,6-Trichlorophenol | 3.0E-10 | N/A | 5.5E-10 | 8.5E-10 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.4E-09 | N/A | 2.3E-09 | 3.7E-09 | 3-Nitroaniline | Liver, Blood, CNS | 6.4E-04 | N/A | 1.1E-03 | 1.7E-03 |
| | | | 4-Nitroaniline | 1.4E-09 | N/A | 2.3E-09 | 3.7E-09 | 4-Nitroaniline | Liver, Blood, CNS | 6.4E-05 | N/A | 1.1E-04 | 1.7E-04 |
| | | | 3,3'-Dichlorobenzidine | 1.2E-08 | N/A | 2.1E-08 | 3.3E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 7.6E-07 | N/A | 1.3E-06 | 2.1E-06 |
| | | | Atrazine | 6.0E-09 | N/A | 1.0E-08 | 1.6E-08 | Atrazine | Whole Body | 2.2E-06 | N/A | 4.3E-07 | 2.6E-06 |
| | | | Benzo(a)anthracene | 2.0E-08 | N/A | 4.4E-08 | 6.4E-08 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 2.0E-07 | N/A | 4.4E-07 | 6.4E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 2.0E-08 | N/A | 4.4E-08 | 6.4E-08 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 5.1E-08 | N/A | 1.1E-07 | 1.6E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 4.4E-08 | N/A | 7.4E-08 | 1.2E-07 | Hexachlorobenzene | Liver | 9.5E-05 | N/A | 1.6E-04 | 2.6E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 2.0E-08 | N/A | 4.4E-08 | 6.4E-08 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 1.5E-04 | N/A | 2.6E-12 | 1.5E-04 |
| | | | Pentachlorophenol | 8.2E-09 | N/A | 4.6E-08 | 5.4E-08 | Pentachlorophenol | Kidney, Liver | 6.4E-06 | N/A | 2.7E-05 | 3.3E-05 |
| | | | bis(2-Chloroethyl)ether | 3.0E-08 | N/A | 5.1E-08 | 8.1E-08 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.9E-07 | N/A | 3.2E-07 | 5.1E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 9.2E-07 | N/A | 1.4E-06 | 2.3E-06 | (Total) | | 2.9E-03 | N/A | 2.4E-03 | 5.3E-03 |

| | |
|---|---|
| Total Risk Across Soil | 9.8E-06 |
| Total Risk Across Surface Water | 9.3E-04 |
| Total Risk Across Sediment | 2.3E-06 |
| Total Risk Across All Media and All Exposure Routes | 9.4E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 1.9E-01 |

| | |
|---|---|
| Total Skin HI = | 2.8E-02 |
| Total Vascular HI = | 2.6E-02 |
| Total NOAEL HI = | 8.1E-06 |
| Total Blood HI = | 1.4E-02 |
| Total Liver HI = | 4.8E-02 |
| Total Kidney HI = | 6.5E-02 |
| Total Whole Body HI = | 4.2E-04 |
| Total CNS HI = | 6.5E-02 |
| Total Bile Duct HI = | 3.7E-04 |
| Total Body Weight HI = | 2.1E-04 |
| Total Fetus HI = | 9.6E-06 |
| Total Eyes HI = | 5.1E-02 |
| Total Adrenal HI = | 1.5E-04 |

TABLE 9.2.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visito
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 2.9E-07 | N/A | 4.4E-08 | 3.3E-07 | Arsenic | Skin, Vascular | 4.5E-03 | N/A | 6.8E-04 | 5.2E-03 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 6.8E-08 | N/A | 0.0E+00 | 6.8E-08 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.7E-10 | N/A | 2.4E-10 | 7.1E-10 | 3-Nitroaniline | Liver, Blood, CNS | 5.5E-04 | N/A | 2.8E-04 | 8.3E-04 |
| | | | 4-Nitroaniline | 4.7E-10 | N/A | 2.4E-10 | 7.1E-10 | 4-Nitroaniline | Liver, Blood, CNS | 5.5E-05 | N/A | 2.8E-05 | 8.3E-05 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 6.3E-07 | N/A | 3.2E-07 | 9.5E-07 |
| | | | Benzo(a)pyrene | 6.6E-08 | N/A | 4.3E-08 | 1.1E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h)anthracene | 6.6E-08 | N/A | 4.3E-08 | 1.1E-07 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.4E-08 | N/A | 7.3E-09 | 2.2E-08 | Hexachlorobenzene | Liver | 7.9E-05 | N/A | 4.0E-05 | 1.2E-04 |
| | | | bis(2-Chloroethyl)ether | 9.9E-09 | N/A | 5.0E-09 | 1.5E-08 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 6.3E-08 | N/A | 3.2E-08 | 9.5E-08 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 5.1E-07 | N/A | 1.7E-07 | 6.8E-07 | (Total) | | 5.2E-03 | N/A | 1.0E-03 | 6.2E-03 |
| Surface Soil | Air | Emissions from Site 1 Surface Soil | Arsenic | N/A | 3.6E-11 | N/A | 3.6E-11 | Arsenic | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | Chloroform | N/A | N/A | N/A | 0.0E+00 | Chloroform | Liver, Kidney | N/A | 5.8E-05 | N/A | 5.8E-05 |
| | | | Acetophenone | N/A | N/A | N/A | 0.0E+00 | Acetophenone | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 1.2E-13 | N/A | 1.2E-13 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | (Total) | N/A | 3.6E-11 | N/A | 3.7E-11 | (Total) | | N/A | 5.8E-05 | N/A | 5.8E-05 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 3.8E-08 | N/A | 2.1E-08 | 5.9E-08 | Arsenic | Skin, Vascular | 3.8E-04 | N/A | 3.3E-04 | 7.1E-04 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.3E-06 | N/A | 1.8E-05 | 2.1E-05 |
| | | | 1,1,2,2-Tetrachloroethane | 1.0E-09 | N/A | 6.6E-09 | 7.6E-09 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 3.8E-07 | N/A | 3.8E-06 | 4.2E-06 |
| | | | 1,1,2-Trichloroethane | 2.9E-10 | N/A | 1.5E-09 | 1.8E-09 | 1,1,2-Trichloroethane | Blood | 5.7E-06 | N/A | 4.6E-05 | 5.1E-05 |
| | | | 1,2-Dibromo-3-chloropropane | 7.1E-09 | N/A | 4.4E-08 | 5.1E-08 | 1,2-Dibromo-3-chloropropa | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 4.3E-09 | N/A | 9.3E-09 | 1.4E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 4.6E-10 | N/A | 1.4E-09 | 1.8E-09 | 1,2-Dichloroethane | Liver | 7.6E-07 | N/A | 3.5E-06 | 4.3E-06 |

TABLE 9.2.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visito
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 1,2-Dichloropropane | 3.5E-10 | N/A | 2.0E-09 | 2.3E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 2.3E-06 | N/A | 8.9E-06 | 1.1E-05 |
| | | | Bromodichloromethane | 3.2E-10 | N/A | 1.3E-09 | 1.7E-09 | Bromodichloromethane | Kidney | 1.1E-06 | N/A | 7.5E-06 | 8.7E-06 |
| | | | Carbon tetrachloride | 6.6E-10 | N/A | 9.1E-09 | 9.8E-09 | Carbon tetrachloride | Liver | 3.3E-05 | N/A | 7.0E-04 | 7.4E-04 |
| | | | Dibromochloromethane | 4.3E-10 | N/A | 1.3E-09 | 1.7E-09 | Dibromochloromethane | Liver | 1.1E-06 | N/A | 5.5E-06 | 6.6E-06 |
| | | | Tetrachloroethene | 2.6E-10 | N/A | 8.0E-09 | 8.3E-09 | Tetrachloroethene | Liver, Whole Body | 2.3E-06 | N/A | 1.1E-04 | 1.1E-04 |
| | | | Vinyl chloride | 3.7E-09 | N/A | 1.3E-08 | 1.7E-08 | Vinyl chloride | liver | 5.3E-05 | N/A | 3.1E-04 | 3.6E-04 |
| | | | cis-1,3-Dichloropropene | 5.1E-10 | N/A | 1.6E-09 | 2.1E-09 | cis-1,3-Dichloropropene | skin | 5.3E-06 | N/A | 2.7E-05 | 3.2E-05 |
| | | | trans-1,3-Dichloropropene | 5.1E-10 | N/A | 1.6E-09 | 2.1E-09 | trans-1,3-Dichloropropene | skin | 5.3E-06 | N/A | 2.7E-05 | 3.2E-05 |
| | | | 2,4,6-Trichlorophenol | 3.4E-10 | N/A | 1.3E-08 | 1.4E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 6.9E-05 | N/A | 3.4E-04 | 4.1E-04 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.4E-04 | N/A | 4.6E-04 | 6.0E-04 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin/vascular | 6.9E-06 | N/A | 1.1E-03 | 1.1E-03 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.4E-08 | N/A | 3.2E-07 | 3.4E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 2.6E-09 | N/A | 4.6E-09 | 7.2E-09 | 3-Nitroaniline | Liver, Blood, CNS | 2.0E-03 | N/A | 5.4E-03 | 7.3E-03 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 6.0E-03 | N/A | 9.8E-02 | 1.0E-01 |
| | | | 4-Nitroaniline | 2.6E-09 | N/A | 4.7E-09 | 7.4E-09 | 4-Nitroaniline | Liver, Blood, CNS | 2.0E-04 | N/A | 5.5E-04 | 7.5E-04 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 2.2E-08 | N/A | 2.2E-05 | 2.2E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 2.2E-07 | N/A | 4.5E-04 | 4.5E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 2.2E-08 | N/A | 4.7E-05 | 4.7E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 2.2E-09 | N/A | 4.2E-06 | 4.2E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 2.2E-10 | N/A | 2.2E-07 | 2.2E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 2.2E-07 | N/A | 9.1E-04 | 9.1E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 3.4E-05 | N/A | 3.4E-03 | 3.4E-03 |
| | | | Hexachlorobenzene | 4.9E-08 | N/A | 1.9E-05 | 1.9E-05 | Hexachlorobenzene | Liver | 1.7E-04 | N/A | 1.0E-01 | 1.0E-01 |
| | | | Hexachlorobutadiene | 2.4E-09 | N/A | 3.9E-07 | 3.9E-07 | Hexachlorobutadiene | Kidney | 6.9E-04 | N/A | 1.8E-01 | 1.8E-01 |
| | | | Hexachloroethane | 4.3E-10 | N/A | 2.1E-08 | 2.1E-08 | Hexachloroethane | Kidney | 1.4E-04 | N/A | 1.0E-02 | 1.0E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 2.2E-08 | N/A | 5.7E-05 | 5.7E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 6.9E-06 | N/A | 3.7E-04 | 3.8E-04 |
| | | | Pentachlorophenol | 3.7E-09 | N/A | 5.6E-06 | 5.6E-06 | Pentachlorophenol | Liver, Kidney | 4.6E-06 | N/A | 8.2E-03 | 8.2E-03 |
| | | | bis(2-Chloroethyl)ether | 3.4E-08 | N/A | 5.1E-07 | 5.4E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 4.3E-10 | N/A | 8.9E-08 | 8.9E-08 | bis(2-Ethylhexyl)phthalate | Liver | 6.9E-06 | N/A | 2.2E-03 | 2.2E-03 |
| | | | n-Nitroso-di-n-propylamine | 2.1E-07 | N/A | 3.6E-07 | 5.8E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitrosodiphenylamine | 1.5E-10 | N/A | 1.0E-09 | 1.2E-09 | n-Nitrosodiphenylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 9.0E-07 | N/A | 1.5E-03 | 1.5E-03 | (Total) | | 9.9E-03 | N/A | 4.1E-01 | 4.2E-01 |

TABLE 9.2.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visito
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 5.8E-07 | N/A | 1.1E-07 | 6.9E-07 | Arsenic | Skin, Vascular | 9.0E-03 | N/A | 1.6E-03 | 1.1E-02 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 8.9E-07 | N/A | 0.0E+00 | 8.9E-07 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,2-Dibromoethane | 1.1E-09 | N/A | 2.0E-10 | 1.3E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Trichloroethene | 5.1E-10 | N/A | 9.2E-11 | 6.0E-10 | Trichloroethene | Liver, Kidney, Fetus | 3.0E-05 | N/A | 5.4E-06 | 3.5E-05 |
| | | | 2,4,6-Trichlorophenol | 5.6E-10 | N/A | 3.7E-10 | 9.3E-10 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 2.5E-09 | N/A | 1.5E-09 | 4.1E-09 | 3-Nitroaniline | Liver, Blood, CNS | 3.0E-03 | N/A | 1.6E-03 | 4.6E-03 |
| | | | 4-Nitroaniline | 2.5E-09 | N/A | 1.5E-09 | 4.1E-09 | 4-Nitroaniline | Liver, Blood, CNS | 3.0E-04 | N/A | 1.8E-04 | 4.8E-04 |
| | | | 3,3'-Dichlorobenzidine | 2.3E-08 | N/A | 1.4E-08 | 3.7E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 3.6E-06 | N/A | 2.2E-06 | 5.7E-06 |
| | | | Atrazine | 1.1E-08 | N/A | 6.8E-09 | 1.8E-08 | Atrazine | Whole Body | 1.0E-05 | N/A | 7.2E-07 | 1.1E-05 |
| | | | Benzo(a)anthracene | 3.7E-08 | N/A | 2.9E-08 | 6.6E-08 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 3.7E-07 | N/A | 2.9E-07 | 6.6E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.7E-08 | N/A | 2.9E-08 | 6.6E-08 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 9.4E-08 | N/A | 7.4E-08 | 1.7E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 8.1E-08 | N/A | 4.9E-08 | 1.3E-07 | Hexachlorobenzene | Liver | 4.5E-04 | N/A | 2.7E-04 | 7.1E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 3.7E-08 | N/A | 2.9E-08 | 6.6E-08 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 7.1E-04 | N/A | 4.3E-12 | 7.1E-04 |
| | | | Pentachlorophenol | 1.5E-08 | N/A | 3.1E-08 | 4.6E-08 | Pentachlorophenol | Kidney, Liver | 3.0E-05 | N/A | 4.5E-05 | 7.5E-05 |
| | | | bis(2-Chloroethyl)ether | 5.6E-08 | N/A | 3.4E-08 | 9.0E-08 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 3.6E-07 | N/A | 2.2E-07 | 5.7E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.7E-06 | N/A | 9.1E-07 | 2.6E-06 | (Total) | | 1.4E-02 | N/A | 3.9E-03 | 1.7E-02 |

| | |
|---|---|
| Total Risk Across Soil | 6.9E-07 |
| Total Risk Across Surface Water | 1.5E-03 |
| Total Risk Across Sediment | 2.6E-06 |
| Total Risk Across All Media and All Exposure Routes | 1.5E-03 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 4.4E-01 |

| | |
|---|---|
| Total Skin HI = | 1.8E-02 |
| Total Vascular HI = | 1.7E-02 |
| Total NOAEL HI = | 6.7E-06 |
| Total Blood HI = | 1.6E-02 |
| Total Liver HI = | 1.3E-01 |
| Total Kidney HI = | 2.0E-01 |
| Total Whole Body HI = | 7.2E-04 |
| Total CNS HI = | 1.2E-01 |
| Total Bile Duct HI = | 6.0E-04 |
| Total Body Weight HI = | 3.8E-04 |
| Total Fetus HI = | 3.5E-05 |
| Total Eyes HI = | 1.0E-01 |
| Total Adrenal HI = | 7.1E-04 |

TABLE 9.3.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Adul

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.3E-04 | N/A | 1.3E-06 | 1.3E-04 | Arsenic | Skin, Vascular | 8.6E-01 | N/A | N/A | 8.6E-01 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.7E-03 | N/A | N/A | 2.7E-03 |
| | | | 1,1,2,2-Tetrachloroethane | 9.4E-07 | N/A | 0.0E+00 | 9.4E-07 | 1,1,2,2-Tetrachloroethane | Liver, Whole Body | 2.3E-04 | N/A | N/A | 2.3E-04 |
| | | | 1,1,2-Trichloroethane | 2.7E-07 | N/A | 7.1E-09 | 2.7E-07 | 1,1,2-Trichloroethane | Blood | 3.4E-03 | N/A | N/A | 3.4E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 6.6E-06 | N/A | 7.1E-09 | 6.6E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dibromoethane | 4.0E-06 | N/A | 0.0E+00 | 4.0E-06 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dichloroethane | 4.3E-07 | N/A | 1.3E-06 | 1.7E-06 | 1,2-Dichloroethane | Liver | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | 1,2-Dichloropropane | 3.2E-07 | N/A | 1.3E-06 | 1.6E-06 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | 2.2E-07 | 2.2E-07 | 1,3-Dichlorobenzene | Liver | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | 1,4-Dichlorobenzene | 1.1E-07 | N/A | 1.5E-07 | 2.6E-07 | 1,4-Dichlorobenzene | Liver | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | Benzene | 2.6E-07 | N/A | 9.5E-07 | 1.2E-06 | Benzene | Blood | 4.6E-03 | N/A | N/A | 4.6E-03 |
| | | | Bromodichloromethane | 2.9E-07 | N/A | N/A | 2.9E-07 | Bromodichloromethane | Kidney | 6.8E-04 | N/A | N/A | 6.8E-04 |
| | | | Bromoform | 3.7E-08 | N/A | N/A | 3.7E-08 | Bromoform | Liver | 6.8E-04 | N/A | N/A | 6.8E-04 |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | Bromomethane | GI | 9.8E-03 | N/A | N/A | 9.8E-03 |
| | | | Carbon tetrachloride | 6.1E-07 | N/A | N/A | 6.1E-07 | Carbon tetrachloride | Liver | 2.0E-02 | N/A | N/A | 2.0E-02 |
| | | | Dibromochloromethane | 3.9E-07 | N/A | N/A | 3.9E-07 | Dibromochloromethane | Liver | 6.8E-04 | N/A | N/A | 6.8E-04 |
| | | | Tetrachloroethene | 2.4E-07 | N/A | N/A | 2.4E-07 | Tetrachloroethene | Liver, Whole Body | 1.4E-03 | N/A | N/A | 1.4E-03 |
| | | | Vinyl chloride | 3.4E-06 | N/A | N/A | 3.4E-06 | Vinyl chloride | Liver | 4.6E-03 | N/A | N/A | 4.6E-03 |
| | | | cis-1,3-Dichloropropene | 4.7E-07 | N/A | N/A | 4.7E-07 | cis-1,3-Dichloropropene | Chronic Irritation | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | trans-1,3-Dichloropropene | 4.7E-07 | N/A | N/A | 4.7E-07 | trans-1,3-Dichloropropene | Chronic Irritation | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 3.1E-07 | N/A | N/A | 3.1E-07 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 1.5E-01 | N/A | N/A | 1.5E-01 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,6-Dinitrotoluene | CNS | 8.2E-02 | N/A | N/A | 8.2E-02 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Chlorophenol | Reproduction | 1.6E-02 | N/A | N/A | 1.6E-02 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.3E-05 | N/A | N/A | 1.3E-05 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 3-Nitroaniline | 2.1E-06 | N/A | N/A | 2.1E-06 | 3-Nitroaniline | Liver, Blood CNS | 1.0E+00 | N/A | N/A | 1.0E+00 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 3.0E+00 | N/A | N/A | 3.0E+00 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4-Methylphenol | CNS, RESP & Whole Body | 1.6E-02 | N/A | N/A | 1.6E-02 |
| | | | 4-Nitroaniline | 2.1E-06 | N/A | N/A | 2.1E-06 | 4-Nitroaniline | Liver, Blood CNS | 1.0E-01 | N/A | N/A | 1.0E-01 |
| | | | Benzo(a)anthracene | 2.1E-05 | N/A | N/A | 2.1E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | 2.1E-04 | N/A | N/A | 2.1E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 2.1E-05 | N/A | N/A | 2.1E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 2.1E-06 | N/A | N/A | 2.1E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Chrysene | 2.1E-07 | N/A | N/A | 2.1E-07 | Chrysene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 2.1E-04 | N/A | N/A | 2.1E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | Dibenzofuran | N/A | 2.1E-02 | N/A | N/A | 2.1E-02 |
| | | | Hexachlorobenzene | 4.5E-05 | N/A | N/A | 4.5E-05 | Hexachlorobenzene | Liver | 1.0E-01 | N/A | N/A | 1.0E-01 |
| | | | Hexachlorobutadiene | 2.2E-06 | N/A | N/A | 2.2E-06 | Hexachlorobutadiene | Kidney | 4.1E-01 | N/A | N/A | 4.1E-01 |
| | | | Hexachloroethane | 3.9E-07 | N/A | N/A | 3.9E-07 | Hexachloroethane | Kidney | 8.2E-02 | N/A | N/A | 8.2E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 2.1E-05 | N/A | N/A | 2.1E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | Naphthalene | Decreased Body Weight | 4.1E-03 | N/A | N/A | 4.1E-03 |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | Nitrobenzene | Blood/Adrenal /Kidney/Liver | 1.6E-01 | N/A | N/A | 1.6E-01 |
| | | | Pentachlorophenol | 3.4E-06 | N/A | N/A | 3.4E-06 | Pentachlorophenol | Liver/Kidney | 2.7E-03 | N/A | N/A | 2.7E-03 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 3.1E-05 | N/A | N/A | 3.1E-05 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 3.9E-07 | N/A | N/A | 3.9E-07 | bis(2-Ethylhexyl)phthalate | Liver | 4.1E-03 | N/A | N/A | 4.1E-03 |
| | | | n-Nitroso-di-n-propylamine | 2.0E-04 | N/A | N/A | 2.0E-04 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | (Total) | 9.2E-04 | N/A | N/A | 9.2E-04 | (Total) | (Total) | 6.1E+00 | N/A | N/A | 6.1E+00 |

TABLE 8.3.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Adul

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Air | Shower | Chloroform | N/A | 7.6E-07 | N/A | 7.6E-07 | Chloroform | Liver, Kidney | N/A | 1.8E-01 | N/A | 1.8E-01 |
| | | | 1,1,2,2-Tetrachloroethane | N/A | 9.4E-07 | N/A | 9.4E-07 | 1,1,2,2-Tetrachloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,1,2-Trichloroethane | N/A | 2.6E-07 | N/A | 2.6E-07 | 1,1,2-Trichloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,2-Dibromo-3-chloropropane | N/A | 1.1E-08 | N/A | 1.1E-08 | 1,2-Dibromo-3-chloropropane | Testicles | N/A | 2.4E-01 | N/A | 2.4E-01 |
| | | | 1,2-Dibromoethane | N/A | 3.6E-06 | N/A | 3.6E-06 | 1,2-Dibromoethane | Sperm | N/A | 2.4E-01 | N/A | 2.4E-01 |
| | | | 1,2-Dichloroethane | N/A | 4.3E-07 | N/A | 4.3E-07 | 1,2-Dichloroethane | Liver, Kidney | N/A | 9.8E-03 | N/A | 9.8E-03 |
| | | | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,2-Dichloropropane | Nose | N/A | 1.2E-02 | N/A | 1.2E-02 |
| | | | 1,3-Dichlorobenzene | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,3-Dichlorobenzene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,4-Dichlorobenzene | N/A | 1.0E-07 | N/A | 1.0E-07 | 1,4-Dichlorobenzene | Liver | N/A | 6.0E-05 | N/A | 6.0E-05 |
| | | | Benzene | N/A | 1.4E-07 | N/A | 1.4E-07 | Benzene | Blood | N/A | 8.1E-03 | N/A | 8.1E-03 |
| | | | Bromodichloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromodichloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromoform | N/A | 1.6E-08 | N/A | 1.6E-08 | Bromoform | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromomethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromomethane | Nose | N/A | 9.8E-03 | N/A | 9.8E-03 |
| | | | Carbon tetrachloride | N/A | 2.5E-07 | N/A | 2.5E-07 | Carbon tetrachloride | Liver | N/A | 2.4E-02 | N/A | 2.4E-02 |
| | | | Dibromochloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Dibromochloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Tetrachloroethene | N/A | 4.7E-08 | N/A | 4.7E-08 | Tetrachloroethene | Liver, Whole Body | N/A | 9.8E-05 | N/A | 9.8E-05 |
| | | | Vinyl chloride | N/A | 7.0E-08 | N/A | 7.0E-08 | Vinyl chloride | Liver | N/A | 4.9E-04 | N/A | 4.9E-04 |
| | | | cis-1,3-Dichloropropene | N/A | 4.7E-08 | N/A | 4.7E-08 | cis-1,3-Dichloropropene | Nasal Mucosa | N/A | 2.4E-03 | N/A | 2.4E-03 |
| | | | trans-1,3-Dichloropropene | N/A | 4.7E-08 | N/A | 4.7E-08 | trans-1,3-Dichloropropene | Nasal Mucosa | N/A | 2.4E-03 | N/A | 2.4E-03 |
| | | | (Total) | N/A | 6.7E-06 | N/A | 6.7E-06 | (Total) | | N/A | 7.3E-01 | N/A | 7.3E-01 |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 3.5E-06 | N/A | 1.4E-06 | 4.8E-06 | Arsenic | Skin, Vascular | 2.2E-02 | N/A | 8.9E-03 | 3.1E-02 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 3.4E-07 | N/A | 0.0E+00 | 3.4E-07 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 5.6E-09 | N/A | 7.4E-09 | 1.3E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.7E-03 | N/A | 3.6E-03 | 6.4E-03 |
| | | | 4-Nitroaniline | 5.6E-09 | N/A | 7.4E-09 | 1.3E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.7E-04 | N/A | 3.6E-04 | 6.4E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 3.2E-06 | N/A | 4.2E-06 | 7.3E-06 |
| | | | Benzo(a)pyrene | 7.9E-07 | N/A | 1.4E-06 | 2.1E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h)anthracene | 7.9E-07 | N/A | 1.4E-06 | 2.1E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.7E-07 | N/A | 2.3E-07 | 4.0E-07 | Hexachlorobenzene | Liver | 3.9E-04 | N/A | 5.2E-04 | 9.1E-04 |
| | | | bis(2-Chloroethyl)ether | 1.2E-07 | N/A | 1.6E-07 | 2.8E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 7.6E-07 | N/A | 1.0E-06 | 1.8E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 6.1E-06 | N/A | 5.5E-06 | 1.2E-05 | (Total) | | 2.6E-02 | N/A | 1.3E-02 | 3.9E-02 |
| Surface Soil | Air | Emissions from Site 1 Surface Soil | Arsenic | N/A | 5.2E-09 | N/A | 5.2E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chloroform | N/A | 1.4E-14 | N/A | 1.4E-14 | Chloroform | Liver,Kidney | N/A | 3.2E-01 | N/A | 3.2E-01 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 1.8E-11 | N/A | 1.8E-11 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | (Total) | N/A | 5.3E-09 | N/A | 5.3E-09 | | | 0.0E+00 | 3.2E-01 | 0.0E+00 | 3.2E-01 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 4.6E-06 | N/A | 1.8E-06 | 6.5E-06 | Arsenic | Skin/vascular | 3.0E-02 | N/A | 1.2E-02 | 4.2E-02 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 5.5E-07 | N/A | 0.0E+00 | 5.5E-07 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,2-Dibromoethane | 1.6E-09 | N/A | 6.3E-10 | 2.2E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 5.6E-09 | N/A | 7.4E-09 | 1.3E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.7E-03 | N/A | 3.6E-03 | 6.4E-03 |
| | | | 4-Nitroaniline | 5.6E-09 | N/A | 7.4E-09 | 1.3E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.7E-04 | N/A | 3.6E-04 | 6.4E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 3.2E-07 | N/A | 4.2E-06 | 4.5E-06 |
| | | | Benzo(a)pyrene | 7.9E-07 | N/A | 1.4E-06 | 2.1E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h)anthracene | 7.9E-07 | N/A | 1.4E-06 | 2.1E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 1.2E-07 | N/A | 1.6E-07 | 2.8E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 7.6E-07 | N/A | 1.0E-06 | 1.8E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 7.1E-06 | N/A | 5.7E-06 | 1.3E-05 | (Total) | | 3.3E-02 | N/A | 1.6E-02 | 4.9E-02 |

TABLE 9.3.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Adul

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 1 | Arsenic | N/A | 7.1E-08 | N/A | 7.1E-08 | Arsenic | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | Chloroform | N/A | 1.3E-08 | N/A | 1.3E-08 | Chloroform | Liver,Kidney | N/A | 5.5E-04 | N/A | 5.5E-04 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 8.2E-07 | N/A | 8.2E-07 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | (Total) | N/A | 9.0E-07 | N/A | 9.0E-07 | | | 0.0E+00 | 5.5E-04 | 0.0E+00 | 5.5E-04 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 5.9E-08 | N/A | 3.5E-08 | 9.4E-08 | Arsenic | Skin/vascular | 3.8E-04 | N/A | 2.3E-04 | 6.1E-04 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.3E-06 | N/A | 1.3E-05 | 1.5E-05 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,1,2,2-Tetrachloroethane | 1.6E-09 | N/A | 1.1E-08 | 1.3E-08 | 1,1,2,2-Tetrachloroethane | Liver/Kidney | 3.6E-07 | N/A | 2.7E-06 | 3.1E-06 |
| | | | 1,1,2-Trichloroethane | 4.5E-10 | N/A | 2.5E-09 | 2.9E-09 | 1,1,2-Trichloroethane | Blood | 5.7E-06 | N/A | 3.2E-05 | 3.8E-05 |
| | | | 1,2-Dibromo-3-chloropropane | 1.1E-08 | N/A | 7.3E-08 | 8.4E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 6.7E-09 | N/A | 1.6E-08 | 2.2E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 7.1E-10 | N/A | 2.3E-09 | 3.0E-09 | 1,2-Dichloroethane | Liver | 7.6E-07 | N/A | 2.5E-06 | 3.2E-06 |
| | | | 1,2-Dichloropropane | 5.3E-10 | N/A | 3.4E-09 | 3.9E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 2.3E-06 | N/A | 6.3E-06 | 8.6E-06 |
| | | | Bromodichloromethane | 4.9E-10 | N/A | 2.2E-09 | 2.7E-09 | Bromodichloromethane | Kidney | 1.1E-06 | N/A | 5.3E-06 | 6.4E-06 |
| | | | Carbon tetrachloride | 1.0E-09 | N/A | 1.5E-08 | 1.6E-08 | Carbon tetrachloride | Liver | 3.3E-05 | N/A | 4.9E-04 | 5.3E-04 |
| | | | Dibromochloromethane | 6.6E-10 | N/A | 2.2E-09 | 2.9E-09 | Dibromochloromethane | Liver | 1.1E-06 | N/A | 3.8E-06 | 5.0E-06 |
| | | | Tetrachloroethene | 4.1E-10 | N/A | 1.3E-08 | 1.4E-08 | Tetrachloroethene | Liver, whole body | 2.3E-06 | N/A | 7.6E-05 | 7.8E-05 |
| | | | Vinyl Chloride | 5.7E-09 | N/A | 2.2E-08 | 2.8E-08 | Vinyl Chloride | liver | 5.3E-05 | N/A | 2.1E-04 | 2.7E-04 |
| | | | cis-1,2-dichloropropene | 7.9E-10 | N/A | 2.7E-09 | 3.5E-09 | cis-1,2-dichloropropene | skin | 5.3E-06 | N/A | 1.9E-05 | 2.4E-05 |
| | | | trans-1,2-dichloropropene | 7.9E-10 | N/A | 2.7E-09 | 3.5E-09 | trans-1,2-dichloropropene | skin | 5.3E-06 | N/A | 1.9E-05 | 2.4E-05 |
| | | | 2,4,6-Trichlorophenol | 5.2E-10 | N/A | 2.3E-08 | 2.3E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 6.9E-05 | N/A | 2.4E-04 | 3.1E-04 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.4E-04 | N/A | 3.2E-04 | 4.6E-04 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin/vascular | 6.9E-06 | N/A | 7.5E-04 | 7.6E-04 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.1E-08 | N/A | 5.4E-07 | 5.6E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.1E-09 | N/A | 7.7E-09 | 1.2E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.0E-03 | N/A | 0.0E+00 | 2.0E-03 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 6.0E-03 | N/A | 6.8E-02 | 7.4E-02 |
| | | | 4-Nitroaniline | 4.1E-09 | N/A | 8.0E-09 | 1.2E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.0E-04 | N/A | 0.0E+00 | 2.0E-04 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 3.4E-08 | N/A | 3.7E-05 | 3.7E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 3.4E-07 | N/A | 7.7E-04 | 7.7E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.4E-08 | N/A | 7.9E-05 | 7.9E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 3.4E-09 | N/A | 7.1E-06 | 7.1E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 3.4E-10 | N/A | 3.7E-07 | 3.7E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.4E-07 | N/A | 1.5E-03 | 1.5E-03 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | N/A | 3.4E-05 | N/A | 2.4E-03 | 2.4E-03 |
| | | | Hexachlorobenzene | 7.5E-08 | N/A | 3.2E-05 | 3.2E-05 | Hexachlorobenzene | Liver | 1.7E-04 | N/A | 7.3E-02 | 7.3E-02 |
| | | | Hexachlorobutadiene | 3.7E-09 | N/A | 6.6E-07 | 6.6E-07 | Hexachlorobutadiene | Kidney | 5.9E-04 | N/A | 1.2E-01 | 1.2E-01 |
| | | | Hexachloroethane | 6.6E-10 | N/A | 3.5E-08 | 3.5E-08 | Hexachloroethane | Kidney | 1.4E-04 | N/A | 7.2E-03 | 7.4E-03 |
| | | | Indeno(1,2,3-cd)pyrene | 3.4E-08 | N/A | 9.6E-05 | 9.6E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 6.9E-06 | N/A | 2.6E-04 | 2.7E-04 |
| | | | Pentachlorophenol | 5.7E-09 | N/A | 9.5E-06 | 9.5E-06 | Pentachlorophenol | Liver, Kidney | 4.6E-06 | N/A | 5.8E-03 | 5.8E-03 |
| | | | bis(2-Chloroethyl)ether | 5.2E-08 | N/A | 8.5E-07 | 9.0E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 6.6E-10 | N/A | 1.5E-07 | 1.5E-07 | bis(2-Ethylhexyl)phthalate | Liver | 6.9E-06 | N/A | 1.6E-03 | 1.6E-03 |
| | | | n-Nitroso-di-n-propylamine | 3.3E-07 | N/A | 6.1E-07 | 9.4E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitrosodiphenylamine | 2.3E-10 | N/A | 1.7E-09 | 2.0E-09 | n-Nitrosodiphenylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.4E-06 | N/A | 2.6E-03 | 2.6E-03 | (Total) | | 9.9E-03 | N/A | 2.8E-01 | 2.9E-01 |

TABLE 9.3.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 9.0E-07 | N/A | 5.2E-07 | 1.4E-06 | Arsenic | Skin/vascular | 5.8E-03 | N/A | 3.3E-03 | 9.2E-03 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 5.7E-07 | N/A | 0.0E+00 | 5.7E-07 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,2-Dibromoethane | 1.7E-09 | N/A | 9.6E-10 | 2.6E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Trichloroethene | 7.9E-10 | N/A | 4.5E-10 | 1.2E-09 | Trichloroethene | Liver, Kidney, Fetus | 1.9E-05 | N/A | 1.1E-05 | 3.0E-05 |
| | | | 2,4,6-Trichlorophenol | 8.6E-10 | N/A | 1.8E-09 | 2.7E-09 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 3.9E-09 | N/A | 7.5E-09 | 1.1E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 3.9E-09 | N/A | 7.5E-09 | 1.1E-08 | 3-Nitroaniline | Liver, Blood, CNS | 1.9E-04 | N/A | 3.7E-03 | 3.9E-03 |
| | | | 4-Nitroaniline | 3.5E-08 | N/A | 6.8E-08 | 1.0E-07 | 4-Nitroaniline | Liver, Blood, CNS | 1.9E-03 | N/A | 3.7E-04 | 2.3E-03 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.3E-06 | N/A | 4.4E-07 | 2.7E-06 |
| | | | Atrazine | 1.7E-08 | N/A | 3.3E-08 | 5.0E-08 | Atrazine | Whole Body | 6.5E-06 | N/A | 1.3E-05 | 1.9E-05 |
| | | | Benzo(a)anthracene | 5.7E-08 | N/A | 1.4E-07 | 2.0E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 5.7E-07 | N/A | 1.4E-06 | 2.0E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 5.7E-08 | N/A | 1.4E-07 | 2.0E-07 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.5E-07 | N/A | 3.6E-07 | 5.1E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.3E-07 | N/A | 2.4E-07 | 3.7E-07 | Hexachlorobenzene | Liver | 2.9E-04 | N/A | 5.5E-04 | 8.4E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 5.7E-08 | N/A | 1.4E-07 | 2.0E-07 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 4.6E-04 | N/A | 8.8E-05 | 5.5E-04 |
| | | | Pentachlorophenol | 2.4E-06 | N/A | 1.5E-07 | 1.7E-07 | Pentachlorophenol | Kidney, Liver | 1.9E-05 | N/A | 9.2E-05 | 1.1E-04 |
| | | | bis(2-Chloroethyl)ether | 8.6E-06 | N/A | 1.7E-07 | 2.5E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 5.5E-07 | N/A | 1.1E-06 | 1.6E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 2.6E-06 | N/A | 4.5E-06 | 7.1E-06 | (Total) | | 8.7E-03 | N/A | 8.1E-03 | 1.7E-02 |

| | |
|---|---|
| Total Risk Across Groundwater | 9.3E-04 |
| Total Risk Across Surface Soil | 1.2E-05 |
| Total Risk Across Subsurface Soil | 1.4E-05 |
| Total Risk Across Surface Water | 2.6E-03 |
| Total Risk Across Sediment | 7.1E-06 |
| Total Risk Across All Media and All Exposure Routes | 3.5E-03 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 7.5E+00 |
| Total Skin HI = | 9.4E-01 |
| Total Vascular HI = | 9.4E-01 |
| Total Liver HI = | 2.4E+00 |
| Total Whole Body HI = | 1.9E-02 |
| Total Blood HI = | 1.3E+00 |
| Total Bile Duct HI = | 4.6E-04 |
| Total Kidney HI = | 1.3E+00 |
| Total GI HI = | 9.8E-03 |
| Total Chronic Irritation HI = | 9.1E-04 |
| Total Eyes HI = | 3.2E+00 |
| Total CNS HI = | 1.3E+00 |
| Total Reproduction HI = | 1.6E-02 |
| Total Body Weight HI = | 4.4E-03 |
| Total Fetus HI = | 3.0E-05 |
| Total Adrenal HI = | 1.6E-01 |
| Total Testicles HI = | 2.4E-01 |
| Total Sperm HI = | 2.4E-01 |
| Total Nasal HI = | 2.7E-02 |
| Total NOAEL HI = | 1.5E-05 |
| Total RESP HI = | 1.6E-02 |

TABLE 9.4.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.7E-05 | N/A | 2.9E-07 | 7.8E-05 | Arsenic | Skin/vascular | 2.0E+00 | N/A | 8.8E-03 | 2.0E+00 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 6.4E-03 | N/A | 5.8E-04 | 7.0E-03 |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 5.5E-07 | N/A | 8.4E-08 | 6.3E-07 | 1,1,2,2-Tetrachloroethane | Liver/Kidney | 5.3E-04 | N/A | 8.2E-05 | 6.1E-04 |
| | | | 1,1,2-Trichloroethane | 1.4E-07 | N/A | 1.5E-08 | 1.7E-07 | 1,1,2-Trichloroethane | Blood | 8.0E-03 | N/A | 7.8E-04 | 8.8E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 3.8E-06 | N/A | 7.6E-07 | 4.6E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 2.3E-06 | N/A | 1.3E-07 | 2.5E-06 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 2.5E-07 | N/A | 1.1E-08 | 2.8E-07 | 1,2-Dichloroethane | Liver | 1.1E-03 | N/A | 4.9E-05 | 1.1E-03 |
| | | | 1,2-Dichloropropane | 1.9E-07 | N/A | 1.8E-08 | 2.0E-07 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 1.1E-03 | N/A | 1.3E-03 | 2.3E-03 |
| | | | 1,4-Dichlorobenzene | 8.6E-08 | N/A | 5.4E-08 | 1.2E-07 | 1,4-Dichlorobenzene | Liver | 1.1E-03 | N/A | 8.8E-04 | 1.9E-03 |
| | | | Benzene | 1.5E-07 | N/A | 2.1E-08 | 1.7E-07 | Benzene | Blood | 1.1E-02 | N/A | 1.5E-03 | 1.2E-02 |
| | | | Bromodichloromethane | 1.7E-07 | N/A | 1.6E-08 | 1.9E-07 | Bromodichloromethane | Kidney | 1.8E-03 | N/A | 1.5E-04 | 1.9E-03 |
| | | | Bromoform | 2.2E-08 | N/A | 2.9E-09 | 2.5E-08 | Bromoform | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Bromomethane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Bromomethane | GI | 2.3E-02 | N/A | 8.7E-04 | 2.4E-02 |
| | | | Carbon tetrachloride | 3.6E-07 | N/A | 1.1E-07 | 4.7E-07 | Carbon tetrachloride | Liver | 4.6E-02 | N/A | 1.3E-02 | 6.0E-02 |
| | | | Dibromochloromethane | 2.3E-07 | N/A | 2.0E-08 | 2.5E-07 | Dibromochloromethane | Liver | 1.6E-03 | N/A | 1.4E-04 | 1.7E-03 |
| | | | Tetrachloroethene | 1.4E-07 | N/A | 1.2E-07 | 2.6E-07 | Tetrachloroethene | Liver/whole body | 3.2E-03 | N/A | 2.5E-03 | 5.6E-03 |
| | | | Vinyl chloride | 2.0E-06 | N/A | 1.7E-07 | 2.1E-06 | Vinyl chloride | Liver | 1.1E-02 | N/A | 4.8E-04 | 1.1E-02 |
| | | | cis-1,3-Dichloropropene | 2.7E-07 | N/A | 1.5E-08 | 2.9E-07 | cis-1,3-Dichloropropene | Chronic Irritation | 1.1E-03 | N/A | 5.6E-05 | 1.1E-03 |
| | | | trans-1,3-Dichloropropene | 2.7E-07 | N/A | 1.5E-08 | 2.9E-07 | trans-1,3-Dichloropropene | Chronic Irritation | 1.1E-03 | N/A | 5.6E-05 | 1.1E-03 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 1.6E-07 | N/A | 2.2E-07 | 4.0E-07 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrophenol | CNS | 3.5E-01 | N/A | 1.4E-02 | 3.7E-01 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.9E-01 | N/A | 1.0E-02 | 2.0E-01 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Chlorophenol | Reproduction | 3.8E-02 | N/A | 7.0E-03 | 4.5E-02 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 7.4E-06 | N/A | 6.2E-06 | 1.4E-05 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.2E-06 | N/A | 4.1E-08 | 1.2E-06 | 3-Nitroaniline | Liver, Blood, CNS | 2.3E+00 | N/A | 8.0E-02 | 2.4E+00 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 7.0E+00 | N/A | 2.1E+00 | 9.1E+00 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4-Methylphenol | CNS, RESP & Whole Body | 3.8E-02 | N/A | 2.3E-03 | 4.1E-02 |
| | | | 4-Nitroaniline | 1.2E-06 | N/A | 4.2E-08 | 1.2E-06 | 4-Nitroaniline | Liver, Blood, CNS | 2.3E-01 | N/A | 8.2E-03 | 2.4E-01 |
| | | | Benzo(a)anthracene | 1.2E-05 | N/A | 5.3E-04 | 5.4E-04 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 1.2E-04 | N/A | 1.1E-02 | 1.1E-02 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.2E-05 | N/A | 1.2E-03 | 1.2E-03 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.2E-06 | N/A | 1.0E-04 | 1.1E-04 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.2E-07 | N/A | 5.3E-06 | 5.4E-06 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.2E-04 | N/A | 2.3E-02 | 2.3E-02 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 4.8E-02 | N/A | 9.9E-03 | 1.4E-01 |
| | | | Hexachlorobenzene | 2.6E-05 | N/A | 4.5E-04 | 4.7E-04 | Hexachlorobenzene | Liver | 2.4E-01 | N/A | 4.1E+00 | 4.3E+00 |
| | | | Hexachlorobutadiene | 1.3E-06 | N/A | 8.5E-06 | 9.8E-06 | Hexachlorobutadiene | Kidney | 9.6E-01 | N/A | 6.4E+00 | 7.4E+00 |
| | | | Hexachloroethane | 2.3E-07 | N/A | 3.9E-07 | 6.2E-07 | Hexachloroethane | Kidney | 1.9E-01 | N/A | 3.3E-01 | 5.2E-01 |
| | | | Indeno(1,2,3-cd)pyrene | 1.2E-05 | N/A | 1.4E-03 | 1.4E-03 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Body Weight | 9.8E-03 | N/A | 7.3E-03 | 1.7E-02 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood/Adrenal/ Kidney/Liver | 3.8E-01 | N/A | 2.8E-02 | 4.1E-01 |
| | | | Pentachlorophenol | 2.0E-06 | N/A | 1.4E-04 | 1.4E-04 | Pentachlorophenol | Kidney/Liver | 8.4E-03 | N/A | 3.3E-01 | 3.4E-01 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 1.8E-05 | N/A | 1.1E-06 | 1.9E-05 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 2.3E-07 | N/A | 2.2E-06 | 2.4E-06 | bis(2-Ethylhexyl)phthalate | Liver | 9.8E-03 | N/A | 9.0E-02 | 9.9E-02 |
| | | | n-Nitroso-di-n-propylamine | 1.2E-04 | N/A | 3.6E-06 | 1.2E-04 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 5.4E-04 | N/A | 3.8E-02 | 3.8E-02 | (Total) | | 1.4E+01 | N/A | 1.4E+01 | 2.8E+01 |

TABLE 9.4.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 8.1E-08 | N/A | 4.5E-07 | 5.3E-06 | Arsenic | Skin/vascular | 2.1E-01 | N/A | 1.2E-02 | 2.2E-01 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 3.2E-06 | N/A | 0.0E+00 | 3.2E-06 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.3E-08 | N/A | 2.5E-09 | 1.6E-08 | 3-Nitroaniline | Liver, Blood CNS | 2.6E-02 | N/A | 4.8E-03 | 3.0E-02 |
| | | | 4-Nitroaniline | 1.3E-08 | N/A | 2.5E-09 | 1.6E-08 | 4-Nitroaniline | Liver, Blood CNS | 2.6E-03 | N/A | 4.8E-04 | 3.0E-03 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.9E-06 | N/A | 5.5E-06 | 3.5E-05 |
| | | | Benzo(a)pyrene | 1.8E-06 | N/A | 4.5E-07 | 2.3E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h)anthracene | 1.8E-06 | N/A | 4.5E-07 | 2.3E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 4.0E-07 | N/A | 7.5E-08 | 4.8E-07 | Hexachlorobenzene | Liver | 3.7E-03 | N/A | 6.9E-04 | 4.4E-03 |
| | | | bis(2-Chloroethyl)ether | 2.8E-07 | N/A | 5.2E-08 | 3.3E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.8E-06 | N/A | 3.3E-07 | 2.1E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.4E-05 | N/A | 1.8E-06 | 1.6E-05 | (Total) | | 2.4E-01 | N/A | 1.8E-02 | 2.6E-01 |
| Surface Soil | Air | Emissions from Site 1 Surface Soil | Arsenic | N/A | 3.7E-09 | N/A | 3.7E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chloroform | N/A | 5.8E-09 | N/A | 5.8E-09 | Chloroform | Liver,Kidney | N/A | 8.9E-01 | N/A | 8.9E-01 |
| | | | Acetophenone | N/A | N/A | N/A | 0.0E+00 | Acetophenone | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 5.8E-07 | N/A | 5.8E-07 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | N/A | 0.0E+00 |
| | | | (Total) | N/A | 5.9E-07 | N/A | 5.9E-07 | (Total) | | N/A | 8.9E-01 | N/A | 8.9E-01 |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.1E-06 | N/A | 6.1E-07 | 1.1E-05 | Arsenic | Skin/vascular | 2.8E-01 | N/A | 1.6E-02 | 3.0E-01 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 5.1E-06 | N/A | 0.0E+00 | 5.1E-06 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,2-Dibromoethane | 3.7E-09 | N/A | 2.1E-10 | 3.9E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.3E-08 | N/A | 2.5E-09 | 1.6E-08 | 3-Nitroaniline | Liver, Blood CNS | 2.6E-02 | N/A | 4.8E-03 | 3.0E-02 |
| | | | 4-Nitroaniline | 1.3E-08 | N/A | 2.5E-09 | 1.6E-08 | 4-Nitroaniline | Liver, Blood CNS | 2.6E-03 | N/A | 4.8E-04 | 3.0E-03 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.9E-06 | N/A | 5.5E-06 | 8.4E-06 |
| | | | Benzo(a)pyrene | 1.8E-06 | N/A | 4.5E-07 | 2.3E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h)anthracene | 1.8E-06 | N/A | 4.5E-07 | 2.3E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 2.8E-07 | N/A | 5.2E-08 | 3.3E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.8E-06 | N/A | 3.3E-07 | 2.1E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.7E-05 | N/A | 1.8E-06 | 1.8E-05 | (Total) | | 3.1E-01 | N/A | 2.1E-02 | 3.3E-01 |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 1 | Arsenic | N/A | 5.0E-09 | N/A | 5.0E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chloroform | N/A | 9.3E-09 | N/A | 9.3E-09 | Chloroform | Liver,Kidney | N/A | 1.6E-03 | N/A | 1.6E-03 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 5.8E-07 | N/A | 5.8E-07 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | N/A | 5.9E-07 | N/A | 5.9E-07 | | | 0.0E+00 | 1.6E-03 | 0.0E+00 | 1.6E-03 |

TABLE 8.4.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 6.6E-06 | N/A | 1.8E-06 | 8.5E-06 | Arsenic | Skin/vascular | 1.8E-03 | N/A | 4.2E-04 | 2.2E-03 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 1.1E-05 | N/A | 2.4E-05 | 3.5E-05 |
| | | | 1,1,2,2-Tetrachloroethane | 1.8E-09 | N/A | 5.1E-09 | 7.0E-09 | 1,1,2,2-Tetrachloroethane | Liver/Kidney | 1.8E-06 | N/A | 5.0E-06 | 6.8E-06 |
| | | | 1,1,2-Trichloroethane | 5.2E-10 | N/A | 1.2E-09 | 1.7E-09 | 1,1,2-Trichloroethane | Blood | 2.7E-05 | N/A | 5.9E-05 | 8.6E-05 |
| | | | 1,2-Dibromo-3-chloropropane | 1.3E-08 | N/A | 3.4E-08 | 4.7E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.8E-09 | N/A | 7.2E-09 | 1.5E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 8.3E-10 | N/A | 1.1E-09 | 1.9E-09 | 1,2-Dichloroethane | Liver | 3.8E-06 | N/A | 4.8E-06 | 8.2E-06 |
| | | | 1,2-Dichloropropane | 8.2E-10 | N/A | 1.6E-09 | 2.2E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 1.1E-05 | N/A | 1.2E-05 | 2.3E-05 |
| | | | Bromodichloromethane | 5.7E-10 | N/A | 1.0E-09 | 1.6E-09 | Bromodichloromethane | Kidney | 5.3E-06 | N/A | 9.8E-06 | 1.5E-05 |
| | | | Carbon tetrachloride | 1.2E-09 | N/A | 7.1E-09 | 8.3E-09 | Carbon tetrachloride | Liver | 1.5E-04 | N/A | 9.1E-04 | 1.1E-03 |
| | | | Dibromochloromethane | 7.7E-10 | N/A | 1.0E-09 | 1.8E-09 | Dibromochloromethane | Liver | 5.3E-06 | N/A | 7.1E-06 | 1.2E-05 |
| | | | Tetrachloroethene | 4.8E-10 | N/A | 6.2E-09 | 6.7E-09 | Tetrachloroethene | Liver, whole body | 1.1E-05 | N/A | 1.4E-04 | 1.5E-04 |
| | | | Vinyl chloride | 8.6E-09 | N/A | 1.0E-08 | 1.7E-08 | Vinyl chloride | liver | 2.5E-04 | N/A | 4.0E-04 | 6.5E-04 |
| | | | cis-1,2-dichloropropene | 9.2E-10 | N/A | 1.3E-09 | 2.2E-09 | cis-1,2-dichloropropene | skin | 2.5E-05 | N/A | 3.5E-05 | 6.0E-05 |
| | | | trans-1,2-dichloropropene | 9.2E-10 | N/A | 1.3E-09 | 2.2E-09 | trans-1,2-dichloropropene | skin | 2.5E-05 | N/A | 3.5E-05 | 6.0E-05 |
| | | | 2,4,6-Trichlorophenol | 6.0E-10 | N/A | 1.0E-08 | 1.1E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 3.2E-04 | N/A | 4.4E-04 | 7.6E-04 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 6.4E-04 | N/A | 6.0E-04 | 1.2E-03 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin/vascular | 3.2E-05 | N/A | 1.4E-03 | 1.4E-03 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.5E-08 | N/A | 2.5E-07 | 2.8E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.5E-09 | N/A | 3.8E-09 | 8.3E-09 | 3-Nitroaniline | Liver, Blood, CNS | 9.3E-03 | N/A | 0.0E+00 | 9.3E-03 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 2.8E-02 | N/A | 1.3E-01 | 1.5E-01 |
| | | | 4-Nitroaniline | 4.8E-09 | N/A | 3.7E-09 | 8.5E-09 | 4-Nitroaniline | Liver, Blood, CNS | 9.3E-04 | N/A | 0.0E+00 | 9.3E-04 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 4.0E-08 | N/A | 1.7E-05 | 1.7E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 4.0E-07 | N/A | 3.5E-04 | 3.5E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 4.0E-08 | N/A | 3.5E-05 | 3.5E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 4.0E-09 | N/A | 3.3E-06 | 3.3E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 4.0E-10 | N/A | 1.7E-07 | 1.7E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 4.0E-07 | N/A | 7.1E-04 | 7.1E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 1.5E-04 | N/A | 4.4E-03 | 4.6E-03 |
| | | | Hexachlorobenzene | 8.8E-08 | N/A | 1.5E-05 | 1.5E-05 | Hexachlorobenzene | Liver | 8.0E-04 | N/A | 1.3E-01 | 1.4E-01 |
| | | | Hexachlorobutadiene | 4.3E-08 | N/A | 3.0E-07 | 3.1E-07 | Hexachlorobutadiene | Kidney | 3.2E-03 | N/A | 2.3E-01 | 2.3E-01 |
| | | | Hexachloroethane | 7.7E-10 | N/A | 1.6E-08 | 1.7E-08 | Hexachloroethane | Kidney | 8.4E-04 | N/A | 1.3E-02 | 1.4E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 4.0E-08 | N/A | 4.5E-05 | 4.5E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 3.2E-05 | N/A | 4.8E-04 | 5.2E-04 |
| | | | Pentachlorophenol | 8.8E-08 | N/A | 4.4E-06 | 4.4E-06 | Pentachlorophenol | Liver, Kidney | 2.1E-03 | N/A | 1.1E-02 | 1.1E-02 |
| | | | bis(2-Chloroethyl)ether | 8.0E-08 | N/A | 3.9E-07 | 4.5E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 7.7E-10 | N/A | 6.9E-08 | 7.0E-08 | bis(2-Ethylhexyl)phthalate | Liver | 3.2E-05 | N/A | 2.9E-03 | 2.9E-03 |
| | | | n-Nitroso-di-n-propylamine | 3.8E-07 | N/A | 2.8E-07 | 6.7E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitrosodiphenylamine | 2.7E-10 | N/A | 8.0E-10 | 1.1E-09 | n-Nitrosodiphenylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.8E-06 | N/A | 1.2E-03 | 1.2E-03 | (Total) | | 4.8E-02 | N/A | 3.3E-01 | 3.7E-01 |

TABLE 9.4.1UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reese Gut and Unnamed Tributaries | Arsenic | 2.1E-06 | N/A | 2.7E-05 | 2.9E-05 | Arsenic | Skin/vascular | 5.4E-02 | N/A | 7.0E-01 | 7.5E-01 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 5.3E-06 | N/A | 8.0E+00 | 8.3E-06 |
| | | | 1,2-Dibromoethane | 3.8E-09 | N/A | 5.0E-08 | 5.4E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Trichloroethene | 1.6E-09 | N/A | 2.4E-08 | 2.5E-08 | Trichloroethene | Liver, Kidney, Fetus | 1.6E-04 | N/A | 2.3E-03 | 2.5E-03 |
| | | | 2,4,6-Trichlorophenol | 2.0E-09 | N/A | 9.4E-08 | 9.6E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 8.2E-08 | N/A | 3.9E-07 | 4.7E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 9.2E-09 | N/A | 3.9E-07 | 4.0E-07 | 3-Nitroaniline | Liver, Blood, CNS | 1.8E-03 | N/A | 7.6E-01 | 7.8E-01 |
| | | | 4-Nitroaniline | 9.2E-09 | N/A | 3.5E-06 | 3.5E-06 | 4-Nitroaniline | Liver, Blood, CNS | 1.8E-02 | N/A | 7.6E-02 | 9.4E-02 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.1E-05 | N/A | 9.2E-05 | 1.1E-04 |
| | | | Atrazine | 4.0E-08 | N/A | 1.7E-06 | 1.8E-06 | Atrazine | Whole Body | 6.1E-03 | N/A | 2.6E-03 | 2.7E-03 |
| | | | Benzo(a)anthracene | 1.3E-07 | N/A | 7.4E-08 | 7.8E-06 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 1.2E-06 | N/A | 7.4E-08 | 7.6E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.3E-07 | N/A | 7.4E-08 | 7.5E-06 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.4E-07 | N/A | 1.5E-05 | 1.3E-05 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 2.9E-07 | N/A | 1.3E-05 | 1.3E-05 | Hexachlorobenzene | Liver | 2.7E-03 | N/A | 1.1E-01 | 1.2E-01 |
| | | | Indeno(1,2,3-cd)pyrene | 1.3E-07 | N/A | 7.4E-08 | 7.6E-06 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 4.3E-03 | N/A | 1.8E-02 | 2.3E-02 |
| | | | Pentachlorophenol | 5.5E-08 | N/A | 7.8E-06 | 7.9E-06 | Pentachlorophenol | Kidney, Liver | 1.8E-04 | N/A | 1.6E-02 | 1.8E-02 |
| | | | bis(2-Chloroethyl)ether | 2.6E-07 | N/A | 6.6E-06 | 6.8E-06 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.3E-06 | N/A | 5.5E-05 | 5.6E-05 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 6.2E-06 | N/A | 2.3E-04 | 2.4E-04 | (Total) | | 8.1E-02 | N/A | 1.7E+00 | 1.8E+00 |

| | |
|---|---|
| Total Risk Across Groundwater | 3.8E-02 |
| Total Risk Across Surface Soil | 1.7E-05 |
| Total Risk Across Subsurface Soil | 1.9E-05 |
| Total Risk Across Surface Water | 1.2E-03 |
| Total Risk Across Sediment | 2.4E-04 |
| Total Risk Across All Media and All Exposure Routes | 4.0E-02 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.2E+01 |

| | |
|---|---|
| Total Skin HI = | 3.3E+00 |
| Total Vascular HI = | 3.3E+00 |
| Total Liver HI = | 1.0E+01 |
| Total Kidney HI = | 1.0E+01 |
| Total Blood HI = | 1.8E+00 |
| Total GI HI = | 2.4E-02 |
| Total Whole Body HI = | 2.7E-01 |
| Total Chronic Inhalation HI = | 2.2E-03 |
| Total CNS HI = | 1.3E+01 |
| Total Bile Duct HI = | 2.0E-01 |
| Total Reproductive HI = | 4.5E-02 |
| Total Body Weight HI = | 1.7E-02 |
| Total Adrenal HI = | 4.1E-01 |
| Total NOAEL HI = | 1.2E-04 |
| Total Eyes HI = | 9.3E+00 |
| Total RESP HI = | 4.1E-02 |

TABLE 9.5.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | Arsenic | N/A | N/A | 4.0E-09 | 4.0E-09 | Arsenic | Skin/vascular | N/A | N/A | 2.4E-03 | 2.4E-03 |
| | | | Chloroform | N/A | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | N/A | N/A | 5.7E-05 | 5.7E-05 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,1,2,2-Tetrachloroethane | N/A | N/A | 9.0E-10 | 9.0E-10 | 1,1,2,2-Tetrachloroethane | Liver/Kidney | N/A | N/A | 5.2E-06 | 5.2E-06 |
| | | | 1,1,2-Trichloroethane | N/A | N/A | 2.2E-10 | 2.2E-10 | 1,1,2-Trichloroethane | Blood | N/A | N/A | 6.9E-06 | 6.9E-06 |
| | | | 1,2-Dibromo-3-chloropropane | N/A | N/A | 4.7E-09 | 4.7E-09 | 1,2-Dibromo-3-chloropropane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | N/A | N/A | 1.2E-09 | 1.2E-09 | 1,2-Dibromoethane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | N/A | N/A | 2.2E-10 | 2.2E-10 | 1,2-Dichloroethane | Liver | N/A | N/A | 5.8E-06 | 5.8E-06 |
| | | | 1,2-Dichloropropane | N/A | N/A | 3.1E-10 | 3.1E-10 | 1,2-Dichloropropane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | 1,3-Dichlorobenzene | Liver | N/A | N/A | 7.2E-05 | 7.2E-05 |
| | | | 1,4-Dichlorobenzene | N/A | N/A | 5.7E-10 | 5.7E-10 | 1,4-Dichlorobenzene | Liver | N/A | N/A | 5.5E-05 | 5.5E-05 |
| | | | Benzene | N/A | N/A | 4.4E-10 | 4.4E-10 | Benzene | Blood | N/A | N/A | 1.9E-04 | 1.9E-04 |
| | | | Bromodichloromethane | N/A | N/A | 1.9E-10 | 1.9E-10 | Bromodichloromethane | Kidney | N/A | N/A | 1.0E-05 | 1.0E-05 |
| | | | Bromoform | N/A | N/A | 1.6E-11 | 1.6E-11 | Bromoform | N/A | N/A | N/A | 7.0E-07 | 7.0E-07 |
| | | | Bromomethane | N/A | N/A | 0.0E+00 | 0.0E+00 | Bromomethane | GI | N/A | N/A | 8.2E-05 | 8.2E-05 |
| | | | Carbon tetrachloride | N/A | N/A | 1.3E-09 | 1.3E-09 | Carbon tetrachloride | Liver | N/A | N/A | 9.6E-04 | 9.6E-04 |
| | | | Dibromochloromethane | N/A | N/A | 1.6E-10 | 1.6E-10 | Dibromochloromethane | Liver | N/A | N/A | 6.6E-06 | 6.6E-06 |
| | | | Tetrachloroethene | N/A | N/A | 1.0E-09 | 1.0E-09 | Tetrachloroethene | Liver/whole body | N/A | N/A | 1.4E-05 | 1.4E-05 |
| | | | Vinyl chloride | N/A | N/A | 4.5E-09 | 4.5E-09 | Vinyl chloride | Liver | N/A | N/A | 7.4E-05 | 7.4E-05 |
| | | | cis-1,3-Dichloropropene | N/A | N/A | 2.6E-10 | 2.6E-10 | cis-1,3-Dichloropropene | Chronic Irritation | N/A | N/A | 6.0E-05 | 6.0E-05 |
| | | | trans-1,3-Dichloropropene | N/A | N/A | 2.6E-10 | 2.6E-10 | trans-1,3-Dichloropropene | Chronic Irritation | N/A | N/A | 6.0E-05 | 6.0E-05 |
| | | | 2,2'-Oxybis(1-chloropropane) | N/A | N/A | 0.0E+00 | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | N/A | N/A | 1.5E-09 | 1.5E-09 | 2,4,6-Trichlorophenol | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrophenol | CNS | N/A | N/A | 8.0E-04 | 8.0E-04 |
| | | | 2,6-Dinitrotoluene | N/A | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | N/A | N/A | 6.0E-04 | 6.0E-04 |
| | | | 2-Chlorophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 2-Chlorophenol | Reproduction | N/A | N/A | 5.8E-04 | 5.8E-04 |
| | | | 2-Nitroaniline | N/A | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | N/A | N/A | 3.2E-08 | 3.2E-08 | 3,3'-Dichlorobenzidine | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | N/A | N/A | 5.8E-10 | 5.8E-10 | 3-Nitroaniline | Liver, Blood, CNS | N/A | N/A | 6.8E-03 | 6.8E-03 |
| | | | 4,6-Dinitro-2-methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | N/A | N/A | 1.0E-01 | 1.0E-01 |
| | | | 4-Methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 4-Methylphenol | CNS, RESP & Whole Body | N/A | N/A | 2.4E-04 | 2.4E-04 |
| | | | 4-Nitroaniline | N/A | N/A | 6.0E-10 | 6.0E-10 | 4-Nitroaniline | Liver, Blood, CNS | N/A | N/A | 7.0E-04 | 7.0E-04 |

TABLE 9.5.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Benzo(a)anthracene | N/A | N/A | 1.6E-06 | 1.6E-06 | Benzo(a)anthracene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | N/A | 3.0E-05 | 3.0E-05 | Benzo(a)pyrene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | N/A | 3.1E-06 | 3.1E-06 | Benzo(b)fluoranthene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | N/A | N/A | 2.8E-07 | 2.8E-07 | Benzo(k)fluoranthene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | N/A | N/A | 1.6E-08 | 1.6E-08 | Chrysene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | N/A | N/A | 5.8E-05 | 5.8E-05 | Dibenz(a,h)anthracene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | N/A | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | N/A | N/A | 4.1E-03 | 4.1E-03 |
| | | | Hexachlorobenzene | N/A | N/A | 1.4E-06 | 1.4E-06 | Hexachlorobenzene | Liver | N/A | N/A | 7.6E-02 | 7.6E-02 |
| | | | Hexachlorobutadiene | N/A | N/A | 3.3E-08 | 3.3E-08 | Hexachlorobutadiene | Kidney | N/A | N/A | 1.5E-01 | 1.5E-01 |
| | | | Hexachloroethane | N/A | N/A | 2.0E-09 | 2.0E-09 | Hexachloroethane | Kidney | N/A | N/A | 1.0E-03 | 1.0E-03 |
| | | | Indeno(1,2,3-cd)pyrene | N/A | N/A | 3.7E-06 | 3.7E-06 | Indeno(1,2,3-cd)pyrene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | N/A | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Body Weight | N/A | N/A | 5.3E-04 | 5.3E-04 |
| | | | Nitrobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood/Adrenal/ Kidney/Liver | N/A | N/A | 2.7E-04 | 2.7E-04 |
| | | | Pentachlorophenol | N/A | N/A | 3.9E-07 | 3.9E-07 | Pentachlorophenol | Kidney/Liver | N/A | N/A | 5.6E-03 | 5.6E-03 |
| | | | bis(2-Chloroethoxy)methane | N/A | N/A | 0.0E+00 | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | N/A | 4.2E-09 | 4.2E-09 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | N/A | N/A | 6.2E-09 | 6.2E-09 | bis(2-Ethylhexyl)phthalate | Liver | N/A | N/A | 1.5E-03 | 1.5E-03 |
| | | | n-Nitroso-di-n-propylamine | N/A | N/A | 5.5E-08 | 5.5E-08 | n-Nitroso-di-n-propylamine | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | N/A | N/A | 9.9E-05 | 9.9E-05 | (Total) | | N/A | N/A | 3.5E-01 | 3.5E-01 |
| Groundwater | Air | Excavation Pit | Chloroform | N/A | 4.8E-09 | N/A | 4.8E-09 | Chloroform | Liver, Kidney | N/A | 2.7E-03 | N/A | 2.7E-03 |
| | | | 1,1,2,2-Tetrachloroethane | N/A | 5.4E-09 | N/A | 5.4E-09 | 1,1,2,2-Tetrachloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,1,2-Trichloroethane | N/A | 1.6E-09 | N/A | 1.6E-09 | 1,1,2-Trichloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,2-Dibromo-3-chloropropane | N/A | 5.4E-11 | N/A | 5.4E-11 | 1,2-Dibromo-3-chloropropane | Testicles | N/A | 2.8E-02 | N/A | 2.8E-02 |
| | | | 1,2-Dibromoethane | N/A | 2.0E-08 | N/A | 2.0E-08 | 1,2-Dibromoethane | Sperm | N/A | 3.2E-03 | N/A | 3.2E-03 |
| | | | 1,2-Dichloroethane | N/A | 2.8E-09 | N/A | 2.8E-09 | 1,2-Dichloroethane | Liver,Kidney | N/A | 1.5E-03 | N/A | 1.5E-03 |
| | | | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,2-Dichloropropane | Nose | N/A | 5.6E-04 | N/A | 5.6E-04 |
| | | | 1,3-Dichlorobenzene | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,3-Dichlorobenzene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,4-Dichlorobenzene | N/A | 6.1E-10 | N/A | 6.1E-10 | 1,4-Dichlorobenzene | Liver | N/A | 2.7E-06 | N/A | 2.7E-06 |
| | | | Benzene | N/A | 9.5E-10 | N/A | 9.5E-10 | Benzene | Blood | N/A | 1.3E-04 | N/A | 1.3E-04 |
| | | | Bromodichloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromodichloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | | N/A | 9.5E-11 | N/A | 9.5E-11 | Bromoform | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromomethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromomethane | Nose | N/A | 1.6E-03 | N/A | 1.6E-03 |
| | | | Carbon tetrachloride | N/A | 1.5E-09 | N/A | 1.5E-09 | Carbon tetrachloride | Liver | N/A | 3.4E-03 | N/A | 3.4E-03 |
| | | | Dibromochloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Dibromochloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Tetrachloroethene | N/A | 2.7E-10 | N/A | 2.7E-10 | Tetrachloroethene | Liver/Whole Body | N/A | 1.4E-05 | N/A | 1.4E-05 |
| | | | Vinyl chloride | N/A | 5.2E-10 | N/A | 5.2E-10 | Vinyl chloride | Liver | N/A | 8.6E-05 | N/A | 8.6E-05 |
| | | | cis-1,3-Dichloropropene | N/A | 3.0E-10 | N/A | 3.0E-10 | cis-1,3-Dichloropropene | Nasal Mucosa | N/A | 3.7E-04 | N/A | 3.7E-04 |
| | | | trans-1,3-Dichloropropene | N/A | 3.0E-10 | N/A | 3.0E-10 | trans-1,3-Dichloropropene | Nasal Mucosa | N/A | 3.7E-04 | N/A | 3.7E-04 |
| | | | (Total) | N/A | 3.9E-08 | N/A | 3.9E-08 | (Total) | | N/A | 4.2E-02 | N/A | 4.2E-02 |

TABLE 9.5.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.1E-07 | N/A | 8.4E-09 | 1.1E-07 | Arsenic | Skin/vascular | 1.7E-02 | N/A | 1.3E-03 | 1.8E-02 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 3.0E-07 | N/A | 0.0E+00 | 3.0E-07 |
| | | | | | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 1.7E-07 | N/A | 6.0E-08 | 2.3E-07 |
| | | | Benzo(a)pyrene | 1.8E-08 | N/A | 6.2E-09 | 2.4E-08 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzo(a,h,)anthracene | 1.8E-08 | N/A | 6.2E-09 | 2.4E-08 | Dibenzo(a,h,)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.7E-08 | N/A | 4.6E-09 | 2.2E-08 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.6E-07 | N/A | 2.5E-08 | 1.9E-07 | (Total) | | 1.7E-02 | N/A | 1.3E-03 | 1.8E-02 |
| Subsurface Soil | Air | Emissions from Site 1 Exposed soil | Arsenic | N/A | 1.9E-08 | N/A | 1.9E-08 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chloroform | N/A | 4.3E-11 | N/A | 4.3E-11 | Chloroform | Kidney, Liver | N/A | 1.3E-04 | N/A | 1.3E-04 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | N/A | 1.9E-08 | N/A | 1.9E-08 | (Total) | | N/A | 1.3E-04 | N/A | 1.3E-04 |

| | |
|---|---|
| Total Risk Across Groundwater | 9.9E-05 |
| Total Risk Across Subsurface Soil | 2.0E-07 |
| Total Risk Across All Media and All Exposure Routes | 9.9E-05 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 4.1E-01 |
| Total Skin HI = | 2.0E-02 |
| Total Vascular HI = | 2.0E-02 |
| Total Liver HI = | 1.0E-01 |
| Total Kidney HI = | #REF! |
| Total Blood HI = | 8.7E-03 |
| Total GI HI = | 8.2E-05 |
| Total Whole Body HI = | 8.8E-04 |
| Total Chronic Irritation HI = | 1.2E-04 |
| Total CNS HI = | 1.1E-01 |
| Total Bile Duct HI = | 6.0E-04 |
| Total Reproductive HI = | 5.8E-04 |
| Total Adrenal HI = | 2.7E-04 |
| Total Testicles HI = | 2.8E-02 |
| Total Sperm HI = | 3.2E-03 |
| Total Nasal HI = | 2.3E-03 |
| Total NOAEL HI = | 2.3E-07 |
| Total Eyes HI = | 1.0E-01 |
| Total RESP HI = | 2.4E-04 |

TABLE 9.6.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.1E-04 | N/A | N/A | 2.1E-04 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | | | | N/A | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.5E-06 | N/A | N/A | 1.5E-06 | | | | | | |
| | | | 1,1,2-Trichloroethane | 4.3E-07 | N/A | N/A | 4.3E-07 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | 1,2-Dibromoethane | 5.3E-06 | N/A | N/A | 5.3E-06 | | | | | | |
| | | | 1,2-Dichloroethane | 6.8E-07 | N/A | N/A | 6.8E-07 | | | | | | |
| | | | 1,2-Dichloropropane | 5.1E-07 | N/A | N/A | 5.1E-07 | | | | | | |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 1,4-Dichlorobenzene | 1.8E-07 | N/A | N/A | 1.8E-07 | | | | | | |
| | | | Benzene | 4.1E-07 | N/A | N/A | 4.1E-07 | | | | | | |
| | | | Bromodichloromethane | 4.6E-07 | N/A | N/A | 4.6E-07 | | | | | | |
| | | | Bromoform | 5.9E-08 | N/A | N/A | 5.9E-08 | | | | | | |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Carbon tetrachloride | 9.7E-07 | N/A | N/A | 9.7E-07 | | | | | | |
| | | | Dibromochloromethane | 6.3E-07 | N/A | N/A | 6.3E-07 | | | | | | |
| | | | Tetrachloroethene | 3.9E-07 | N/A | N/A | 3.9E-07 | | | | | | |
| | | | Vinyl chloride | 5.4E-06 | N/A | N/A | 5.4E-06 | | | | | | |
| | | | cis-1,3-Dichloropropene | 7.5E-07 | N/A | N/A | 7.5E-07 | | | | | | |
| | | | trans-1,3-Dichloropropene | 7.5E-07 | N/A | N/A | 7.5E-07 | | | | | | |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 4.9E-07 | N/A | N/A | 4.9E-07 | | | | | | |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 2.0E-05 | N/A | N/A | 2.0E-05 | | | | | | |
| | | | 3-Nitroaniline | 3.3E-06 | N/A | N/A | 3.3E-06 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 3.3E-06 | N/A | N/A | 3.3E-06 | | | | | | |
| | | | Benzo(a)anthracene | 3.3E-05 | N/A | N/A | 3.3E-05 | | | | | | |
| | | | Benzo(a)pyrene | 3.3E-04 | N/A | N/A | 3.3E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 3.3E-05 | N/A | N/A | 3.3E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 3.3E-06 | N/A | N/A | 3.3E-06 | | | | | | |
| | | | Chrysene | 3.3E-07 | N/A | N/A | 3.3E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.3E-04 | N/A | N/A | 3.3E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 7.2E-05 | N/A | N/A | 7.2E-05 | | | | | | |
| | | | Hexachlorobutadiene | 3.5E-06 | N/A | N/A | 3.5E-06 | | | | | | |
| | | | Hexachloroethane | 6.3E-07 | N/A | N/A | 6.3E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.3E-05 | N/A | N/A | 3.3E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 5.4E-06 | N/A | N/A | 5.4E-06 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.9E-05 | N/A | N/A | 4.9E-05 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 6.3E-07 | N/A | N/A | 6.3E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 3.1E-04 | N/A | N/A | 3.1E-04 | | | | | | |
| | | | (Total) | 1.5E-03 | N/A | N/A | 1.5E-03 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 6.6.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Cardinogenic Risk | | | | Chemical | Non-Cardinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.2E-05 | N/A | 1.8E-06 | 1.3E-05 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 1.9E-08 | N/A | 9.9E-09 | 2.9E-08 | | | | | | |
| | | | 4-Nitroaniline | 1.9E-08 | N/A | 9.9E-09 | 2.9E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 2.6E-06 | N/A | 1.8E-06 | 4.4E-06 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 2.6E-06 | N/A | 1.8E-06 | 4.4E-06 | | | | | | |
| | | | Hexachlorobenzene | 5.8E-07 | N/A | 3.0E-07 | 8.8E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.0E-07 | N/A | 2.1E-07 | 6.0E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.5E-06 | N/A | 1.3E-06 | 3.8E-06 | | | | | | |
| | | | (Total) | 2.0E-05 | N/A | 7.3E-06 | 2.8E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Air | Emissions from Site 1 Surface Soil | Arsenic | N/A | 9.0E-09 | N/A | 9.0E-09 | | | | | | |
| | | | Chloroform | N/A | 1.4E-08 | N/A | 1.4E-08 | | | | | | |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | 1.4E-06 | N/A | 1.4E-06 | | | | | | |
| | | | (Total) | N/A | 1.4E-06 | N/A | 1.4E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.5E-05 | N/A | 2.4E-06 | 1.8E-05 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,2-Dibromoethane | 5.3E-09 | N/A | 8.4E-10 | 6.2E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 1.9E-08 | N/A | 9.9E-09 | 2.9E-08 | | | | | | |
| | | | 4-Nitroaniline | 1.9E-08 | N/A | 9.9E-09 | 2.9E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 2.6E-06 | N/A | 1.8E-06 | 4.4E-06 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 2.6E-06 | N/A | 1.8E-06 | 4.4E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.0E-07 | N/A | 2.1E-07 | 6.0E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.5E-06 | N/A | 1.3E-06 | 3.8E-06 | | | | | | |
| | | | (Total) | 2.4E-05 | N/A | 7.6E-06 | 3.1E-05 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.6.1IA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 1 | Arsenic | N/A | 1.2E-08 | N/A | 1.2E-08 | | | | | | |
| | | | Chloroform | N/A | 2.3E-08 | N/A | 2.3E-08 | | | | | | |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | 1.4E-06 | N/A | 1.4E-06 | | | | | | |
| | | | (Total) | N/A | 1.4E-06 | N/A | 1.4E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.3E-07 | N/A | 5.2E-08 | 1.8E-07 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 3.5E-09 | N/A | 1.6E-08 | 2.0E-05 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.0E-09 | N/A | 3.7E-09 | 4.7E-09 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 2.5E-08 | N/A | 1.1E-07 | 1.3E-07 | | | | | | |
| | | | 1,2-Dibromoethane | 1.5E-08 | N/A | 2.3E-08 | 3.8E-08 | | | | | | |
| | | | 1,2-Dichloroethane | 1.6E-09 | N/A | 3.4E-09 | 5.0E-09 | | | | | | |
| | | | 1,2-Dichloropropane | 1.2E-09 | N/A | 4.9E-09 | 6.1E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 1.1E-09 | N/A | 3.3E-09 | 4.4E-09 | | | | | | |
| | | | Carbon tetrachloride | 2.3E-09 | N/A | 2.2E-08 | 2.5E-08 | | | | | | |
| | | | Dibromochloromethane | 1.5E-09 | N/A | 3.2E-09 | 4.7E-09 | | | | | | |
| | | | Tetrachloroethene | 9.2E-10 | N/A | 2.0E-08 | 2.1E-08 | | | | | | |
| | | | Vinyl chloride | 2.5E-08 | N/A | 6.4E-08 | 8.9E-08 | | | | | | |
| | | | cis-1,2-dichloropropene | 1.6E-09 | N/A | 4.0E-09 | 5.6E-09 | | | | | | |
| | | | trans-1,2-dichloropropene | 1.6E-09 | N/A | 4.0E-09 | 5.6E-09 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.2E-08 | N/A | 3.3E-08 | 3.4E-08 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 4.6E-08 | N/A | 7.9E-07 | 8.4E-07 | | | | | | |
| | | | 3-Nitroaniline | 9.2E-09 | N/A | 1.1E-08 | 2.0E-08 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 9.2E-09 | N/A | 1.2E-08 | 2.1E-08 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 7.7E-08 | N/A | 5.4E-05 | 5.4E-05 | | | | | | |
| | | | Benzo(a)pyrene | 7.7E-07 | N/A | 1.1E-03 | 1.1E-03 | | | | | | |
| | | | Benzo(b)fluoranthene | 7.7E-08 | N/A | 1.2E-04 | 1.2E-04 | | | | | | |
| | | | Benzo(k)fluoranthene | 7.7E-09 | N/A | 1.0E-05 | 1.0E-05 | | | | | | |
| | | | Chrysene | 7.7E-10 | N/A | 5.4E-07 | 5.4E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 7.7E-07 | N/A | 2.2E-03 | 2.2E-03 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |

TABLE 9.6.UA.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Hexachlorobenzene | 1.7E-07 | N/A | 4.7E-05 | 4.7E-05 | | | | | | |
| | | | Hexachlorobutadiene | 8.2E-09 | N/A | 9.6E-07 | 9.7E-07 | | | | | | |
| | | | Hexachloroethane | 1.5E-09 | N/A | 5.1E-08 | 5.2E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 7.7E-08 | N/A | 1.4E-04 | 1.4E-04 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.3E-08 | N/A | 1.4E-05 | 1.4E-05 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.2E-07 | N/A | 1.2E-06 | 1.4E-06 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.5E-09 | N/A | 2.2E-07 | 2.2E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 7.4E-07 | N/A | 8.9E-07 | 1.6E-06 | | | | | | |
| | | | n-Nitrosodiphenylamine | 5.2E-10 | N/A | 2.5E-09 | 3.0E-09 | | | | | | |
| | | | (Total) | 3.1E-06 | 0.0E+00 | 3.7E-03 | 3.7E-03 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.0E-06 | N/A | 2.7E-05 | 3.0E-05 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,2-Dibromoethane | 5.6E-09 | N/A | 5.1E-08 | 5.7E-08 | | | | | | |
| | | | Trichloroethene | 2.6E-09 | N/A | 2.4E-08 | 2.7E-08 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 2.9E-09 | N/A | 9.6E-08 | 9.9E-08 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 1.3E-08 | N/A | 4.0E-07 | 4.1E-07 | | | | | | |
| | | | 4-Nitroaniline | 1.3E-08 | N/A | 4.0E-07 | 4.1E-07 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.2E-07 | N/A | 3.6E-06 | 3.7E-06 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Atrazine | 5.8E-08 | N/A | 1.8E-06 | 1.8E-06 | | | | | | |
| | | | Benzo(a)anthracene | 1.9E-07 | N/A | 7.6E-06 | 7.8E-06 | | | | | | |
| | | | Benzo(a)pyrene | 1.9E-06 | N/A | 7.6E-05 | 7.8E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.9E-07 | N/A | 7.6E-06 | 7.8E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 4.8E-07 | N/A | 1.9E-05 | 2.0E-05 | | | | | | |
| | | | Hexachlorobenzene | 4.2E-07 | N/A | 1.3E-05 | 1.3E-05 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.8E-07 | N/A | 7.6E-06 | 7.8E-06 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 7.9E-08 | N/A | 8.0E-06 | 8.1E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 2.9E-07 | N/A | 8.8E-06 | 9.1E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 1.8E-06 | N/A | 5.6E-05 | 5.8E-05 | | | | | | |
| | | | (Total) | 8.8E-06 | 0.0E+00 | 2.4E-04 | 2.5E-04 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwate | 1.5E-03 |
| Total Risk Across Surface Soi | 2.9E-05 |
| Total Risk Across Subsurface Soi | 3.3E-05 |
| Total Risk Across Surface Water | 3.7E-03 |
| Total Risk Across Sediment | 2.5E-04 |
| Total Risk Across All Media and All Exposure Routes | 5.5E-03 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | N/A |

TABLE 9.7.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Industrial Works
Receptor Age: Adul

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 4.6E-09 | N/A | 6.6E-09 | 1.1E-06 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.7E-10 | N/A | 1.5E-09 | 1.7E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 4.8E-11 | N/A | 3.8E-10 | 4.2E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-09 | N/A | 8.0E-09 | 9.2E-09 | | | | | | |
| | | | 1,2-Dibromoethane | 7.1E-10 | N/A | 2.0E-09 | 2.7E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 7.6E-11 | N/A | 3.8E-10 | 4.5E-10 | | | | | | |
| | | | 1,2-Dichloropropane | 5.7E-11 | N/A | 5.3E-10 | 5.9E-10 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 5.2E-11 | N/A | 3.1E-10 | 3.6E-10 | | | | | | |
| | | | Carbon tetrachloride | 1.1E-10 | N/A | 2.1E-09 | 2.2E-09 | | | | | | |
| | | | Dibromochloromethane | 7.0E-11 | N/A | 2.7E-10 | 3.4E-10 | | | | | | |
| | | | Tetrachloroethene | 4.4E-11 | N/A | 1.7E-09 | 1.8E-09 | | | | | | |
| | | | Vinyl Chloride | 6.0E-10 | N/A | 3.8E-09 | 4.4E-09 | | | | | | |
| | | | cis-1,3-dichloropropene | 8.4E-11 | N/A | 4.3E-10 | 5.1E-10 | | | | | | |
| | | | trans-1,3-dichloropropene | 8.4E-11 | N/A | 4.3E-10 | 5.1E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 4.7E-11 | N/A | 2.6E-09 | 2.6E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.9E-09 | N/A | 5.3E-08 | 5.5E-08 | | | | | | |
| | | | 3-Nitroaniline | 3.5E-10 | N/A | 1.2E-09 | 1.5E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 3.5E-10 | N/A | 1.2E-09 | 1.5E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 3.1E-09 | N/A | 2.6E-06 | 2.7E-06 | | | | | | |
| | | | Benzo(a)pyrene | 3.1E-08 | N/A | 5.1E-05 | 5.1E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 3.1E-09 | N/A | 5.3E-06 | 5.3E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | 3.1E-10 | N/A | 4.8E-07 | 4.8E-07 | | | | | | |
| | | | Chrysene | 3.1E-11 | N/A | 2.6E-08 | 2.7E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.1E-08 | N/A | 9.8E-05 | 9.8E-05 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 6.9E-09 | N/A | 2.4E-06 | 2.4E-06 | | | | | | |
| | | | Hexachlorobutadiene | 3.4E-10 | N/A | 5.5E-08 | 5.5E-08 | | | | | | |
| | | | Hexachloroethane | 6.0E-11 | N/A | 3.4E-09 | 3.5E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-08 | N/A | 6.2E-06 | 6.2E-06 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 5.2E-10 | N/A | 6.5E-07 | 6.5E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.7E-09 | N/A | 1.3E-07 | 1.3E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 6.0E-11 | N/A | 1.0E-08 | 1.0E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 3.0E-08 | N/A | 9.3E-08 | 1.2E-07 | | | | | | |
| | | | n-Nitrosodiphenylamine | 2.1E-11 | N/A | 2.1E-10 | 2.4E-10 | | | | | | |
| | | | (Total) | 1.3E-07 | N/A | 1.7E-04 | 1.7E-04 | (Total) | | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Surface Water | 1.7E-04 | | | | | Total Hazard Index Across All Media and All Exposure Routes | |

TABLE 9.8.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescent

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.4E-08 | N/A | 8.8E-09 | 2.3E-08 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 5.2E-10 | N/A | 2.8E-09 | 3.3E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.5E-10 | N/A | 6.2E-10 | 7.7E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 3.6E-09 | N/A | 1.8E-08 | 2.2E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 2.2E-09 | N/A | 3.9E-09 | 6.1E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 2.4E-10 | N/A | 5.8E-10 | 8.1E-10 | | | | | | |
| | | | 1,2-Dichloropropane | 1.8E-10 | N/A | 8.4E-10 | 1.0E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 1.6E-10 | N/A | 5.6E-10 | 7.2E-10 | | | | | | |
| | | | Carbon tetrachloride | 3.4E-10 | N/A | 3.8E-09 | 4.2E-09 | | | | | | |
| | | | Dibromochloromethane | 2.2E-10 | N/A | 5.5E-10 | 7.7E-10 | | | | | | |
| | | | Tetrachloroethene | 1.4E-10 | N/A | 3.4E-09 | 3.5E-09 | | | | | | |
| | | | Vinyl Chloride | 1.9E-09 | N/A | 5.6E-09 | 7.4E-09 | | | | | | |
| | | | cis-1,3-dichloropropene | 2.6E-10 | N/A | 6.8E-10 | 9.4E-10 | | | | | | |
| | | | trans-1,3-dichloropropene | 2.6E-10 | N/A | 6.8E-10 | 9.4E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.5E-10 | N/A | 5.6E-09 | 5.8E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 6.0E-09 | N/A | 1.3E-07 | 1.4E-07 | | | | | | |
| | | | 3-Nitroaniline | 1.1E-09 | N/A | 1.9E-09 | 3.0E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 1.1E-09 | N/A | 2.0E-09 | 3.1E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 9.8E-09 | N/A | 9.2E-06 | 9.2E-06 | | | | | | |
| | | | Benzo(a)pyrene | 9.8E-08 | N/A | 1.9E-04 | 1.9E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 9.8E-09 | N/A | 2.0E-05 | 2.0E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 9.8E-10 | N/A | 1.8E-06 | 1.8E-06 | | | | | | |
| | | | Chrysene | 9.8E-11 | N/A | 9.2E-08 | 9.2E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 9.8E-08 | N/A | 3.8E-04 | 3.8E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 2.1E-08 | N/A | 7.9E-06 | 8.0E-06 | | | | | | |
| | | | Hexachlorobutadiene | 1.0E-09 | N/A | 1.6E-07 | 1.6E-07 | | | | | | |
| | | | Hexachloroethane | 1.9E-10 | N/A | 8.6E-09 | 8.8E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 9.8E-09 | N/A | 2.4E-05 | 2.4E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.6E-09 | N/A | 2.4E-06 | 2.4E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.5E-08 | N/A | 2.1E-07 | 2.3E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.9E-10 | N/A | 3.7E-08 | 3.7E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 9.4E-08 | N/A | 1.5E-07 | 2.5E-07 | | | | | | |
| | | | n-Nitrosodiphenylamine | 6.6E-11 | N/A | 4.3E-10 | 5.0E-10 | | | | | | |
| | | | (Total) | 3.9E-07 | N/A | 6.4E-04 | 6.4E-04 | (Total) | | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Soil | 6.4E-04 | | | Total Hazard Index Across All Media and All Exposure Routes | | | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 6.4E-04 | | | | | | |

TABLE 9.9.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 6.2E-06 | N/A | N/A | 6.2E-06 | Arsenic | Skin/vascular | 1.1E-01 | N/A | N/A | 1.1E-01 |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | Chloroform | Liver | 7.2E-04 | N/A | N/A | 7.2E-04 |
| | | | | | | N/A | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.6E-07 | N/A | N/A | 1.6E-07 | 1,1,2,2-Tetrachloroethane | Liver/whole body | 1.1E-04 | N/A | N/A | 1.1E-04 |
| | | | 1,1,2-Trichloroethane | 4.7E-08 | N/A | N/A | 4.7E-08 | 1,1,2-Trichloroethane | Blood | 1.6E-03 | N/A | N/A | 1.6E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-06 | N/A | N/A | 1.2E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.0E-07 | N/A | N/A | 7.0E-07 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dichloroethane | 7.5E-08 | N/A | N/A | 7.5E-08 | 1,2-Dichloroethane | Liver | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | 1,2-Dichloropropane | 5.6E-08 | N/A | N/A | 5.6E-08 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | 1,4-Dichlorobenzene | 2.0E-08 | N/A | N/A | 2.0E-08 | 1,4-Dichlorobenzene | Liver | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | Benzene | 4.5E-08 | N/A | N/A | 4.5E-08 | Benzene | Blood | 2.1E-03 | N/A | N/A | 2.1E-03 |
| | | | Bromodichloromethane | 5.1E-08 | N/A | N/A | 5.1E-08 | Bromodichloromethane | Kidney | 3.2E-04 | N/A | N/A | 3.2E-04 |
| | | | Bromoform | 6.5E-09 | N/A | N/A | 6.5E-09 | Bromoform | Liver | 3.2E-04 | N/A | N/A | 3.2E-04 |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | Bromomethane | GI | 4.6E-03 | N/A | N/A | 4.6E-03 |
| | | | Carbon tetrachloride | 1.1E-07 | N/A | N/A | 1.1E-07 | Carbon tetrachloride | Liver | 9.2E-03 | N/A | N/A | 9.2E-03 |
| | | | Dibromochloromethane | 5.9E-08 | N/A | N/A | 5.9E-08 | Dibromochloromethane | Liver | 3.2E-04 | N/A | N/A | 3.2E-04 |
| | | | Tetrachloroethene | 4.3E-08 | N/A | N/A | 4.3E-08 | Tetrachloroethene | Liver/whole body | 6.4E-04 | N/A | N/A | 6.4E-04 |
| | | | Vinyl chloride | 5.9E-07 | N/A | N/A | 5.9E-07 | Vinyl chloride | Liver | 2.1E-03 | N/A | N/A | 2.1E-03 |
| | | | cis-1,3-Dichloropropene | 8.2E-08 | N/A | N/A | 8.2E-08 | cis-1,3-Dichloropropene | Chronic Irritation | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | trans-1,3-Dichloropropene | 8.2E-08 | N/A | N/A | 8.2E-08 | trans-1,3-Dichloropropene | Chronic Irritation | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 4.6E-08 | N/A | N/A | 4.6E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 6.6E-02 | N/A | N/A | 6.6E-02 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,6-Dinitrotoluene | CNS | 3.4E-02 | N/A | N/A | 3.4E-02 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Chlorophenol | Reproduction | 6.8E-03 | N/A | N/A | 6.8E-03 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.0E-06 | N/A | N/A | 2.0E-06 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 3-Nitroaniline | 3.4E-07 | N/A | N/A | 3.4E-07 | 3-Nitroaniline | Liver, Blood, CNS | 4.4E-01 | N/A | N/A | 4.4E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 1.3E+00 | N/A | N/A | 1.3E+00 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4-Methylphenol | CNS, RESP & Whole Body | 6.8E-03 | N/A | N/A | 6.8E-03 |
| | | | 4-Nitroaniline | 3.4E-07 | N/A | N/A | 3.4E-07 | 4-Nitroaniline | Liver, Blood, CNS | 4.4E-02 | N/A | N/A | 4.4E-02 |
| | | | Benzo(a)anthracene | 3.2E-06 | N/A | N/A | 3.2E-06 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | 3.2E-05 | N/A | N/A | 3.2E-05 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.2E-06 | N/A | N/A | 3.2E-06 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 3.2E-07 | N/A | N/A | 3.2E-07 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Chrysene | 3.2E-08 | N/A | N/A | 3.2E-08 | Chrysene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.2E-05 | N/A | N/A | 3.2E-05 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | Dibenzofuran | N/A | 6.5E-03 | N/A | N/A | 6.5E-03 |
| | | | Hexachlorobenzene | 7.0E-06 | N/A | N/A | 7.0E-06 | Hexachlorobenzene | Liver | 4.2E-02 | N/A | N/A | 4.2E-02 |
| | | | Hexachlorobutadiene | 3.4E-07 | N/A | N/A | 3.4E-07 | Hexachlorobutadiene | Kidney | 1.7E-01 | N/A | N/A | 1.7E-01 |
| | | | Hexachloroethane | 6.1E-08 | N/A | N/A | 6.1E-08 | Hexachloroethane | Kidney | 3.4E-02 | N/A | N/A | 3.4E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 3.2E-06 | N/A | N/A | 3.2E-06 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | Naphthalene | Body Weight | 1.7E-03 | N/A | N/A | 1.7E-03 |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | Nitrobenzene | Blood/Adrenal /Kidney/Liver | 6.8E-02 | N/A | N/A | 6.8E-02 |
| | | | Pentachlorophenol | 5.2E-07 | N/A | N/A | 5.2E-07 | Pentachlorophenol | Liver/Kidney | 1.1E-03 | N/A | N/A | 1.1E-03 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 4.8E-08 | N/A | N/A | 4.8E-08 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 1.1E-07 | N/A | N/A | 1.1E-07 | bis(2-Ethylhexyl)phthalate | Liver | 3.1E-03 | N/A | N/A | 3.1E-03 |
| | | | n-Nitroso-di-n-propylamine | 0.0E+00 | N/A | N/A | 0.0E+00 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | (Total) | 9.8E-05 | N/A | N/A | 9.8E-05 | (Total) | (Total) | 2.4E+00 | N/A | N/A | 2.4E+00 |

TABLE 9.9.1UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5-Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 2.0E-07 | N/A | 1.3E-07 | 3.3E-07 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 5.9E-10 | N/A | 1.3E-09 | 1.8E-09 | | | | | | |
| | | | 4-Nitroaniline | 5.6E-10 | N/A | 1.3E-09 | 1.8E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 8.1E-08 | N/A | 2.4E-07 | 3.2E-07 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 8.1E-08 | N/A | 2.4E-07 | 3.2E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.8E-08 | N/A | 4.1E-08 | 5.8E-08 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.2E-08 | N/A | 2.8E-08 | 4.0E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 7.8E-08 | N/A | 1.8E-07 | 2.6E-07 | | | | | | |
| | | | (Total) | 4.7E-07 | N/A | 8.6E-07 | 1.3E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 2.6E-07 | N/A | 1.8E-07 | 4.3E-07 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,2-Dibromoethane | 1.4E-10 | N/A | 9.8E-11 | 2.4E-10 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 6.0E-10 | N/A | 1.4E-09 | 2.0E-09 | | | | | | |
| | | | 4-Nitroaniline | 6.0E-10 | N/A | 1.4E-09 | 2.0E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 8.6E-08 | N/A | 2.5E-07 | 3.4E-07 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 8.6E-08 | N/A | 2.5E-07 | 3.4E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.3E-08 | N/A | 3.0E-08 | 4.2E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 8.2E-08 | N/A | 1.9E-07 | 2.7E-07 | | | | | | |
| | | | (Total) | 5.2E-07 | N/A | 9.1E-07 | 1.4E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 8.3E-09 | N/A | 1.2E-08 | 2.0E-08 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 3.0E-10 | N/A | 5.1E-09 | 5.4E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 8.6E-11 | N/A | 1.2E-09 | 1.2E-09 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 2.1E-09 | N/A | 3.4E-08 | 3.6E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 1.3E-09 | N/A | 7.2E-09 | 8.5E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 1.4E-10 | N/A | 1.1E-09 | 1.2E-09 | | | | | | |
| | | | 1,2-Dichloropropane | 1.0E-10 | N/A | 1.5E-09 | 1.7E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 9.3E-11 | N/A | 1.0E-09 | 1.1E-09 | | | | | | |
| | | | Carbon tetrachloride | 2.0E-10 | N/A | 7.1E-09 | 7.3E-09 | | | | | | |
| | | | Dibromochloromethane | 1.3E-10 | N/A | 1.0E-09 | 1.1E-09 | | | | | | |
| | | | Tetrachloroethene | 7.8E-11 | N/A | 6.2E-09 | 6.3E-09 | | | | | | |
| | | | Vinyl Chloride | 1.1E-09 | N/A | 1.0E-08 | 1.1E-08 | | | | | | |
| | | | cis-1,3-dichloropropene | 1.5E-10 | N/A | 7.6E-09 | 7.7E-09 | | | | | | |
| | | | trans-1,3-dichloropropene | 1.5E-10 | N/A | 7.6E-09 | 7.7E-09 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 8.5E-11 | N/A | 8.9E-09 | 9.0E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 3.5E-08 | N/A | 2.1E-07 | 2.2E-07 | | | | | | |
| | | | 3-Nitroaniline | 6.3E-10 | N/A | 2.9E-09 | 3.5E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 6.3E-10 | N/A | 2.9E-09 | 3.6E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 5.6E-09 | N/A | 1.5E-05 | 1.5E-05 | | | | | | |

TABLE 9.9.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Benzo(a)pyrene | 5.8E-09 | N/A | 3.0E-04 | 3.0E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.6E-09 | N/A | 3.1E-05 | 3.1E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 5.6E-10 | N/A | 2.8E-06 | 2.8E-06 | | | | | | |
| | | | Chrysene | 5.6E-11 | N/A | 1.5E-07 | 1.5E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 5.6E-08 | N/A | 6.0E-04 | 6.0E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 1.2E-06 | N/A | 1.3E-05 | 1.3E-05 | | | | | | |
| | | | Hexachlorobutadiene | 8.0E-10 | N/A | 2.6E-07 | 2.6E-07 | | | | | | |
| | | | Hexachloroethane | 1.1E-10 | N/A | 1.4E-06 | 1.4E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 5.6E-09 | N/A | 3.8E-05 | 3.8E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 9.3E-10 | N/A | 3.7E-06 | 3.7E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.5E-09 | N/A | 3.4E-07 | 3.4E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.1E-10 | N/A | 5.9E-06 | 5.9E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.4E-08 | N/A | 2.4E-07 | 3.0E-07 | | | | | | |
| | | | n-Nitrosodiphenylamine | 3.8E-11 | N/A | 6.8E-10 | 7.2E-10 | | | | | | |
| | | | (Total) | 2.3E-07 | N/A | 1.0E-03 | 1.0E-03 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.2E-08 | N/A | 3.3E-08 | 6.5E-08 | | | | | | |
| | | | | 0.0E+00 | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | 0.0E+00 | | 0.0E+00 | | | | | | | |
| | | | 1,2-Dibromoethane | 7.8E-10 | N/A | 8.1E-10 | 1.6E-09 | | | | | | |
| | | | Trichloroethene | 3.7E-10 | N/A | 3.8E-10 | 7.4E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 4.3E-11 | N/A | 1.6E-10 | 2.0E-10 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 7.8E-11 | N/A | 2.7E-10 | 3.5E-10 | | | | | | |
| | | | 4-Nitroaniline | 2.0E-10 | N/A | 6.8E-10 | 8.8E-10 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 4.4E-09 | N/A | 1.5E-08 | 2.0E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Atrazine | 8.5E-10 | N/A | 2.9E-09 | 3.8E-09 | | | | | | |
| | | | Benzo(a)anthracene | 2.8E-09 | N/A | 1.3E-08 | 1.6E-08 | | | | | | |
| | | | Benzo(a)pyrene | 2.8E-08 | N/A | 1.3E-07 | 1.6E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.8E-09 | N/A | 1.3E-08 | 1.6E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.0E-08 | N/A | 1.3E-07 | 1.6E-07 | | | | | | |
| | | | Hexachlorobenzene | 5.2E-09 | N/A | 2.1E-08 | 2.6E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 2.8E-09 | N/A | 1.3E-08 | 1.6E-08 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.2E-09 | N/A | 1.4E-08 | 1.5E-08 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.3E-09 | N/A | 1.5E-08 | 1.9E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.7E-08 | N/A | 9.4E-08 | 1.2E-07 | | | | | | |
| | | | (Total) | 1.4E-07 | N/A | 5.0E-07 | 6.4E-07 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 9.8E-05 |
| Total Risk Across Surface Soil | 1.3E-06 |
| Total Risk Across Subsurface Soil | 1.4E-06 |
| Total Risk Across Surface Water | 1.0E-03 |
| Total Risk Across Sediment | 6.4E-07 |
| Total Risk Across All Media and All Exposure Routes | 1.1E-03 |

Total Hazard Index Across All Media and All Exposure Routes

| | |
|---|---|
| Total Skin HI = | 1.1E-01 |
| Total Vascular HI = | 1.1E-01 |
| Total Liver HI = | 6.1E-01 |
| Total Whole Body HI = | 7.5E-03 |
| Total Blood HI = | 5.8E-01 |
| Total Kidney HI = | 2.7E-01 |
| Total GI HI = | 4.6E-03 |
| Total Chronic Irritation HI = | 4.3E-04 |
| Total Eyes HI = | 1.4E+00 |
| Total Reproduction HI = | 6.8E-03 |
| Total CNS HI = | 1.8E+00 |
| Total RESP HI = | 6.8E-03 |
| Total Body Weight HI = | 1.7E-03 |
| Total Adrenal HI = | 5.8E-02 |

TABLE 9.10.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.4E-05 | N/A | 2.4E-06 | 1.4E-05 | Arsenic | Skin/vascular | 2.8E-01 | N/A | 8.6E-04 | 2.8E-01 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 2.4E-03 | N/A | 1.6E-04 | 2.6E-03 |
| | | | | 0.0E+00 | | 0.0E+00 | | | | | | 0.0E+00 | |
| | | | 1,1,2,2-Tetrachloroethane | 3.7E-07 | N/A | 4.3E-08 | 4.1E-07 | 1,1,2,2-Tetrachloroethane | Liver/whole body | 3.6E-04 | N/A | 4.1E-05 | 4.0E-04 |
| | | | 1,1,2-Trichloroethane | 1.0E-07 | N/A | 7.7E-09 | 1.1E-07 | 1,1,2-Trichloroethane | Blood | 5.3E-03 | N/A | 3.9E-04 | 5.7E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 2.6E-08 | N/A | 3.8E-07 | 2.9E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 1.6E-06 | N/A | 6.5E-08 | 1.6E-06 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 1.7E-07 | N/A | 5.7E-08 | 1.7E-07 | 1,2-Dichloroethane | Liver | 7.1E-04 | N/A | 2.4E-05 | 7.4E-04 |
| | | | 1,2-Dichloropropane | 1.2E-07 | N/A | 9.2E-09 | 1.3E-07 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 7.1E-04 | N/A | 8.4E-04 | 1.4E-03 |
| | | | 1,4-Dichlorobenzene | 4.4E-08 | N/A | 2.7E-08 | 7.1E-08 | 1,4-Dichlorobenzene | Liver | 7.1E-04 | N/A | 4.4E-04 | 1.2E-03 |
| | | | Benzene | 1.0E-07 | N/A | 1.1E-08 | 1.1E-07 | Benzene | Blood | 7.1E-03 | N/A | 7.6E-04 | 7.9E-03 |
| | | | Bromodichloromethane | 1.1E-07 | N/A | 9.3E-09 | 1.2E-07 | Bromodichloromethane | Kidney | 1.1E-03 | N/A | 7.8E-05 | 1.1E-03 |
| | | | Bromoform | 1.4E-08 | N/A | 1.4E-09 | 1.6E-08 | Bromoform | Liver | 1.1E-03 | N/A | 0.0E+00 | 1.1E-03 |
| | | | Bromomethane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Bromomethane | GI | 1.5E-02 | N/A | 3.4E-04 | 1.6E-02 |
| | | | Carbon tetrachloride | 2.4E-07 | N/A | 5.8E-08 | 3.0E-07 | Carbon tetrachloride | Liver | 3.1E-02 | N/A | 7.4E-03 | 3.8E-02 |
| | | | Dibromochloromethane | 1.5E-07 | N/A | 1.0E-08 | 1.6E-07 | Dibromochloromethane | Liver | 1.1E-03 | N/A | 7.1E-05 | 1.1E-03 |
| | | | Tetrachloroethene | 5.5E-08 | N/A | 5.6E-08 | 1.5E-07 | Tetrachloroethene | Liver/whole body | 2.1E-03 | N/A | 1.3E-03 | 3.4E-03 |
| | | | Vinyl chloride | 1.3E-06 | N/A | 8.7E-08 | 1.4E-06 | Vinyl chloride | Liver | 7.1E-03 | N/A | 2.4E-04 | 7.4E-03 |
| | | | cis-1,3-Dichloropropene | 1.9E-07 | N/A | 7.3E-09 | 1.9E-07 | cis-1,3-Dichloropropene | Chronic Irritation | 7.1E-04 | N/A | 2.8E-05 | 7.4E-04 |
| | | | trans-1,3-Dichloropropene | 1.9E-07 | N/A | 7.3E-09 | 1.9E-07 | trans-1,3-Dichloropropene | Chronic Irritation | 7.1E-04 | N/A | 2.8E-05 | 7.4E-04 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 1.1E-07 | N/A | 9.9E-09 | 2.1E-07 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 2.2E-01 | N/A | 8.9E-03 | 2.3E-01 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | CNS | 1.1E-01 | N/A | 4.6E-03 | 1.2E-01 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Chlorophenol | Reproduction | 2.3E-02 | N/A | 3.1E-03 | 2.6E-02 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 4.4E-06 | N/A | 2.7E-06 | 7.1E-06 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 7.5E-07 | N/A | 1.9E-08 | 7.7E-07 | 3-Nitroaniline | Liver, Blood, CNS | 1.5E+00 | N/A | 3.7E-02 | 1.5E+00 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes, CNS, RESP & Whole Body | 4.4E+00 | N/A | 8.7E-01 | 5.4E+00 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4-Methylphenol | Liver, Blood, CNS | 2.3E-02 | N/A | 1.0E-03 | 2.4E-02 |
| | | | 4-Nitroaniline | 7.5E-07 | N/A | 2.0E-08 | 7.7E-07 | 4-Nitroaniline | | 1.5E-01 | N/A | 3.9E-03 | 1.5E-01 |
| | | | Benzo(a)anthracene | 7.1E-06 | N/A | 2.3E-04 | 2.4E-04 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 7.1E-06 | N/A | 5.0E-03 | 5.0E-03 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 7.1E-06 | N/A | 5.1E-04 | 5.2E-04 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 7.1E-07 | N/A | 4.8E-08 | 4.7E-08 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 7.1E-06 | N/A | 2.3E-08 | 2.4E-06 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 7.1E-05 | N/A | 1.0E-02 | 1.0E-02 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 2.8E-02 | N/A | 3.9E-02 | 6.7E-02 |
| | | | Hexachlorobenzene | 1.5E-05 | N/A | 2.0E-04 | 2.1E-04 | Hexachlorobenzene | Liver | 1.4E-01 | N/A | 1.8E+00 | 1.9E+00 |
| | | | Hexachlorobutadiene | 7.4E-07 | N/A | 3.8E-08 | 4.5E-08 | Hexachlorobutadiene | Kidney | 5.8E-01 | N/A | 2.8E+00 | 3.4E+00 |
| | | | Hexachloroethane | 1.4E-07 | N/A | 1.7E-07 | 3.1E-07 | Hexachloroethane | Kidney | 1.1E-01 | N/A | 1.4E-01 | 2.5E-01 |
| | | | Indeno(1,2,3-cd)pyrene | 7.1E-06 | N/A | 6.3E-04 | 6.4E-04 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Body Weight, Blood/Adrenal | 5.6E-03 | N/A | 3.7E-03 | 9.3E-03 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Kidney/Liver | 2.3E-01 | N/A | 1.3E-02 | 2.4E-01 |
| | | | Pentachlorophenol | 1.2E-06 | N/A | 6.1E-09 | 6.2E-06 | Pentachlorophenol | Liver/Kidney | 3.8E-03 | N/A | 1.5E-01 | 1.5E-01 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 1.1E-06 | N/A | 6.0E-07 | 1.1E-05 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 2.5E-07 | N/A | 1.7E-08 | 2.0E-06 | bis(2-Ethylhexyl)phthalate | Liver | 1.0E-02 | N/A | 7.2E-03 | 6.2E-02 |
| | | | n-Nitroso-di-n-propylamine | 0.0E+00 | N/A | 1.8E-06 | 1.8E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 2.2E-04 | N/A | 1.1E-02 | 1.1E-02 | (Total) | (Total) | 7.9E+00 | N/A | 6.1E+00 | 1.4E+01 |

TABLE 9.10.IIA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.2E-06 | N/A | 1.2E-07 | 1.3E-06 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 3.5E-09 | N/A | 1.1E-09 | 4.6E-09 | | | | | | |
| | | | 4-Nitroaniline | 3.5E-09 | N/A | 1.1E-09 | 4.6E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 5.1E-07 | N/A | 2.1E-07 | 7.2E-07 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 5.1E-07 | N/A | 2.1E-07 | 7.2E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.1E-07 | N/A | 3.5E-08 | 1.5E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 7.6E-08 | N/A | 2.4E-08 | 1.0E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 4.8E-07 | N/A | 1.6E-07 | 6.4E-07 | | | | | | |
| | | | (Total) | 2.9E-06 | N/A | 7.5E-07 | 3.7E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.6E-06 | N/A | 1.5E-07 | 1.7E-06 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,2-Dibromoethane | 9.0E-10 | N/A | 8.6E-11 | 9.9E-10 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 3.7E-09 | N/A | 1.2E-09 | 4.9E-09 | | | | | | |
| | | | 4-Nitroaniline | 3.7E-09 | N/A | 1.2E-09 | 4.9E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 5.3E-07 | N/A | 2.2E-07 | 7.5E-07 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 5.3E-07 | N/A | 2.2E-07 | 7.5E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.1E-08 | N/A | 2.6E-08 | 1.1E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.1E-07 | N/A | 1.6E-07 | 6.8E-07 | | | | | | |
| | | | (Total) | 3.3E-06 | N/A | 7.9E-07 | 4.1E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 2.8E-08 | N/A | 5.4E-09 | 3.1E-08 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 9.4E-10 | N/A | 2.3E-09 | 3.2E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 2.7E-10 | N/A | 5.2E-10 | 7.9E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 6.6E-09 | N/A | 1.5E-08 | 2.2E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 4.0E-09 | N/A | 3.2E-09 | 7.2E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 4.3E-10 | N/A | 4.8E-10 | 9.1E-10 | | | | | | |
| | | | 1,2-Dichloropropane | 3.3E-10 | N/A | 7.0E-10 | 1.0E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 2.9E-10 | N/A | 4.7E-10 | 7.6E-10 | | | | | | |
| | | | Carbon tetrachloride | 6.1E-10 | N/A | 3.2E-09 | 3.8E-09 | | | | | | |
| | | | Dibromochloromethane | 3.8E-10 | N/A | 4.6E-10 | 8.5E-10 | | | | | | |
| | | | Tetrachloroethene | 2.4E-10 | N/A | 2.8E-09 | 3.1E-09 | | | | | | |
| | | | Vinyl Chloride | 3.4E-09 | N/A | 4.7E-09 | 8.0E-09 | | | | | | |
| | | | cis-1,3-dichloropropene | 4.7E-10 | N/A | 3.4E-09 | 3.9E-09 | | | | | | |
| | | | trans-1,3-dichloropropene | 4.7E-10 | N/A | 3.4E-09 | 3.9E-09 | | | | | | |

TABLE 6.10.1A.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 2,4,6-Trichlorophenol | 7.6E-10 | N/A | 4.0E-09 | 4.3E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.1E-08 | N/A | 9.7E-08 | 1.1E-07 | | | | | | |
| | | | 3-Nitroaniline | 2.0E-09 | N/A | 1.3E-09 | 3.3E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 2.0E-09 | N/A | 1.3E-09 | 3.3E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 1.0E-08 | N/A | 8.8E-06 | 8.8E-06 | | | | | | |
| | | | Benzo(a)pyrene | 1.0E-07 | N/A | 1.4E-04 | 1.4E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.0E-08 | N/A | 1.4E-05 | 1.4E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.0E-09 | N/A | 1.3E-06 | 1.3E-06 | | | | | | |
| | | | Chrysene | 1.0E-10 | N/A | 8.8E-08 | 8.8E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.0E-07 | N/A | 2.7E-04 | 2.7E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 3.9E-08 | N/A | 3.7E-06 | 3.7E-06 | | | | | | |
| | | | Hexachlorobutadiene | 1.9E-09 | N/A | 1.2E-07 | 1.2E-07 | | | | | | |
| | | | Hexachloroethane | 3.4E-10 | N/A | 8.2E-09 | 8.5E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-08 | N/A | 1.7E-05 | 1.7E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 2.0E-09 | N/A | 1.7E-06 | 1.7E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 2.0E-08 | N/A | 1.5E-07 | 1.6E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 3.4E-10 | N/A | 2.7E-09 | 3.7E-09 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 1.7E-07 | N/A | 1.1E-07 | 2.8E-07 | | | | | | |
| | | | n-Nitrosodiphenylamine | 1.2E-10 | N/A | 3.1E-10 | 4.3E-10 | | | | | | |
| | | | (Total) | 7.0E-07 | N/A | 4.6E-04 | 4.6E-04 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reside Gut and Unnamed Tributaries | Arsenic | 2.0E-07 | N/A | 2.8E-06 | 3.0E-06 | Arsenic | Skin/vascular | 5.1E-03 | N/A | 7.3E-02 | 7.8E-02 |
| | | | | | | 0.0E+00 | | | | 0.0E+00 | | 0.0E+00 | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 6.6E-06 | N/A | 0.0E+00 | 6.6E-06 |
| | | | | | | 0.0E+00 | | | | 0.0E+00 | | 0.0E+00 | |
| | | | 1,2-Dibromoethane | 4.6E-09 | N/A | 6.9E-08 | 7.4E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Trichloroethene | 2.3E-09 | N/A | 3.3E-08 | 3.5E-08 | Trichloroethene | Liver, Kidney, Fetus | 2.2E-04 | N/A | 3.2E-03 | 3.4E-03 |
| | | | 2,4,6-Trichlorophenol | 2.7E-10 | N/A | 1.4E-08 | 1.4E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.9E-08 | N/A | 2.3E-08 | 5.1E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.8E-10 | N/A | 8.9E-08 | 8.9E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.4E-04 | N/A | 1.1E-01 | 1.1E-01 |
| | | | 4-Nitroaniline | 1.2E-09 | N/A | 1.3E-06 | 1.3E-06 | 4-Nitroaniline | Liver, Blood, CNS | 2.4E-03 | N/A | 1.1E-02 | 1.4E-02 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.8E-08 | N/A | 1.3E-08 | 1.6E-08 |
| | | | Atrazine | 5.3E-09 | N/A | 2.9E-07 | 2.9E-07 | Atrazine | Whole Body | 8.0E-06 | N/A | 3.8E-04 | 3.9E-04 |
| | | | Benzo(a)anthracene | 1.0E-08 | N/A | 1.1E-06 | 1.1E-06 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 1.0E-07 | N/A | 1.1E-05 | 1.1E-05 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.0E-09 | N/A | 1.1E-06 | 1.1E-06 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.0E-07 | N/A | 1.1E-05 | 1.2E-05 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 3.9E-09 | N/A | 1.0E-06 | 1.0E-06 | Hexachlorobenzene | Liver | 3.5E-04 | N/A | 1.7E-02 | 1.7E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-08 | N/A | 1.1E-06 | 1.1E-06 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 5.6E-04 | N/A | 2.7E-03 | 3.2E-03 |
| | | | Pentachlorophenol | 7.3E-09 | N/A | 1.2E-06 | 1.2E-06 | Pentachlorophenol | Kidney, Liver | 2.4E-05 | N/A | 2.8E-03 | 2.9E-03 |
| | | | bis(2-Chloroethyl)ether | 2.7E-08 | N/A | 1.3E-06 | 1.3E-06 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.7E-07 | N/A | 8.0E-06 | 8.2E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 8.9E-07 | N/A | 4.2E-05 | 4.3E-05 | (Total) | | 8.9E-03 | 0.0E+00 | 2.2E-01 | 2.3E-01 |

| | |
|---|---|
| Total Risk Across Groundwater | 1.7E-02 |
| Total Risk Across Surface Soil | 3.7E-06 |
| Total Risk Across Subsurface Soil | 4.1E-06 |
| Total Risk Across Surface Water | 4.6E-04 |
| Total Risk Across Sediment | 4.3E-05 |
| Total Risk Across All Media and All Exposure Routes | 1.7E-02 |

Total Hazard Index Across All Media and All Exposure Routes: 1.4E+01

| | |
|---|---|
| Total Skin HI = | 4.4E-01 |
| Total Vascular HI = | 4.4E-01 |
| Total Liver HI = | 4.3E+00 |
| Total Whole Body HI = | 2.8E-03 |
| Total Blood HI = | 2.0E+00 |
| Total Kidney HI = | 4.1E+00 |
| Total GI HI = | 1.9E-03 |
| Total Chronic Inhalation HI = | 1.3E-03 |
| Total Eyes HI = | 5.6E+00 |
| Total CNS HI = | 7.3E+00 |
| Total Reproduction HI = | 2.6E-02 |
| Total RESP HI = | 2.4E-03 |
| Total Body Weight HI = | 8.9E-03 |
| Total Adrenal HI = | 2.4E-01 |
| Total Fetus HI = | 3.4E-03 |
| Total NOAEL HI = | 1.6E-08 |

TABLE 9.11.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.0E-05 | N/A | N/A | 2.0E-05 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | | | | N/A | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 5.3E-07 | N/A | N/A | 5.3E-07 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.5E-07 | N/A | N/A | 1.5E-07 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 3.7E-06 | N/A | N/A | 3.7E-06 | | | | | | |
| | | | 1,2-Dibromoethane | 2.3E-06 | N/A | N/A | 2.3E-06 | | | | | | |
| | | | 1,2-Dichloroethane | 2.4E-07 | N/A | N/A | 2.4E-07 | | | | | | |
| | | | 1,2-Dichloropropane | 1.8E-07 | N/A | N/A | 1.8E-07 | | | | | | |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 1,4-Dichlorobenzene | 6.4E-08 | N/A | N/A | 6.4E-08 | | | | | | |
| | | | Benzene | 1.5E-07 | N/A | N/A | 1.5E-07 | | | | | | |
| | | | Bromodichloromethane | 1.6E-07 | N/A | N/A | 1.6E-07 | | | | | | |
| | | | Bromoform | 2.1E-08 | N/A | N/A | 2.1E-08 | | | | | | |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Carbon tetrachloride | 3.5E-07 | N/A | N/A | 3.5E-07 | | | | | | |
| | | | Dibromochloromethane | 2.2E-07 | N/A | N/A | 2.2E-07 | | | | | | |
| | | | Tetrachloroethene | 1.4E-07 | N/A | N/A | 1.4E-07 | | | | | | |
| | | | Vinyl chloride | 1.9E-06 | N/A | N/A | 1.9E-06 | | | | | | |
| | | | cis-1,3-Dichloropropene | 2.7E-07 | N/A | N/A | 2.7E-07 | | | | | | |
| | | | trans-1,3-Dichloropropene | 2.7E-07 | N/A | N/A | 2.7E-07 | | | | | | |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.5E-07 | N/A | N/A | 1.5E-07 | | | | | | |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 6.3E-06 | N/A | N/A | 6.3E-06 | | | | | | |
| | | | 3-Nitroaniline | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | Benzo(a)anthracene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Benzo(a)pyrene | 1.0E-04 | N/A | N/A | 1.0E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.0E-06 | N/A | N/A | 1.0E-06 | | | | | | |
| | | | Chrysene | 1.0E-07 | N/A | N/A | 1.0E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.0E-04 | N/A | N/A | 1.0E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 2.2E-05 | N/A | N/A | 2.2E-05 | | | | | | |
| | | | Hexachlorobutadiene | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | Hexachloroethane | 2.0E-07 | N/A | N/A | 2.0E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.7E-06 | N/A | N/A | 1.7E-06 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.5E-05 | N/A | N/A | 1.5E-05 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 3.6E-07 | N/A | N/A | 3.6E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | (Total) | 3.2E-04 | N/A | 0.0E+00 | 3.2E-04 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.11.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 1 Surface Soil | Arsenic | 1.4E-06 | N/A | 5.8E-07 | 2.0E-06 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 4.1E-09 | N/A | 1.1E-08 | 1.5E-08 | | | | | | |
| | | | 4-Nitroaniline | 4.1E-09 | N/A | 1.1E-08 | 1.5E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 5.9E-07 | N/A | 3.3E-07 | 9.2E-07 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 5.9E-07 | N/A | 3.3E-08 | 3.9E-06 | | | | | | |
| | | | Hexachlorobenzene | 1.3E-07 | N/A | 1.6E-08 | 1.4E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.8E-08 | N/A | 2.3E-07 | 3.2E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.6E-07 | N/A | 1.5E-08 | 2.0E-06 | | | | | | |
| | | | (Total) | 3.4E-06 | N/A | 5.9E-06 | 9.3E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 1 Subsurface Soil | Arsenic | 1.8E-06 | N/A | 3.3E-07 | 2.2E-06 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | 0.0E+00 | N/A | 0.0E+00 | | | | | | | |
| | | | 1,2-Dibromoethane | 1.0E-09 | N/A | 1.8E-10 | 1.2E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 4.3E-09 | N/A | 2.5E-09 | 6.9E-09 | | | | | | |
| | | | 4-Nitroaniline | 4.3E-09 | N/A | 2.5E-09 | 6.9E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 6.2E-07 | N/A | 4.8E-07 | 1.1E-06 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 6.2E-07 | N/A | 4.8E-07 | 1.1E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 9.4E-08 | N/A | 5.5E-08 | 1.5E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 8.0E-07 | N/A | 3.5E-07 | 9.5E-07 | | | | | | |
| | | | (Total) | 3.8E-06 | N/A | 1.7E-06 | 5.5E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 4.9E-08 | N/A | 1.7E-11 | 4.9E-08 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.8E-09 | N/A | 5.4E-12 | 1.8E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 5.0E-10 | N/A | 1.2E-12 | 5.0E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-08 | N/A | 3.6E-11 | 1.2E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 7.5E-09 | N/A | 7.6E-12 | 7.5E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 6.0E-10 | N/A | 1.1E-12 | 6.0E-10 | | | | | | |
| | | | 1,2-Dichloropropane | 6.0E-10 | N/A | 1.6E-12 | 6.0E-10 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 5.5E-10 | N/A | 1.1E-12 | 5.5E-10 | | | | | | |
| | | | Carbon tetrachloride | 1.1E-09 | N/A | 7.5E-12 | 1.2E-09 | | | | | | |
| | | | Dibromochloromethane | 7.4E-10 | N/A | 1.1E-12 | 7.4E-10 | | | | | | |
| | | | Tetrachloroethene | 4.6E-10 | N/A | 6.6E-12 | 4.6E-10 | | | | | | |
| | | | Vinyl chloride | 1.2E-08 | N/A | 2.1E-11 | 1.2E-08 | | | | | | |
| | | | cis-1,2-dichloropropene | 6.8E-10 | N/A | 1.3E-12 | 6.8E-10 | | | | | | |
| | | | trans-1,2-dichloropropene | 6.8E-10 | N/A | 1.3E-12 | 6.8E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 5.0E-10 | N/A | 1.1E-11 | 5.1E-10 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |

TABLE 9.11.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3,3'-Dichlorobenzidine | 2.0E-08 | N/A | 2.8E-10 | 2.1E-08 | | | | | | |
| | | | 3-Nitroaniline | 3.7E-09 | N/A | 3.6E-12 | 3.7E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 3.7E-09 | N/A | 3.9E-12 | 3.7E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 3.3E-08 | N/A | 1.8E-08 | 5.1E-08 | | | | | | |
| | | | Benzo(a)pyrene | 3.3E-07 | N/A | 3.7E-07 | 7.0E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 3.3E-08 | N/A | 3.8E-08 | 7.1E-08 | | | | | | |
| | | | Benzo(k)fluoranthene | 3.3E-09 | N/A | 3.5E-09 | 6.8E-09 | | | | | | |
| | | | Chrysene | 3.3E-10 | N/A | 1.8E-10 | 5.1E-10 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.3E-07 | N/A | 7.4E-07 | 1.1E-06 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 7.2E-08 | N/A | 1.5E-06 | 8.8E-08 | | | | | | |
| | | | Hexachlorobutadiene | 3.5E-09 | N/A | 3.2E-10 | 3.9E-09 | | | | | | |
| | | | Hexachloroethane | 6.3E-10 | N/A | 1.7E-11 | 6.5E-10 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.3E-08 | N/A | 4.7E-08 | 8.0E-08 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 5.4E-09 | N/A | 4.6E-09 | 1.0E-08 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 5.0E-08 | N/A | 4.1E-10 | 5.0E-08 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 6.3E-10 | N/A | 7.3E-11 | 7.1E-10 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 3.2E-07 | N/A | 3.0E-10 | 3.2E-07 | | | | | | |
| | | | n-Nitrosodiphenylamine | 2.2E-10 | N/A | 8.4E-13 | 2.2E-10 | | | | | | |
| | | | (Total) | 1.3E-06 | 0.0E+00 | 1.2E-06 | 2.9E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.3E-07 | N/A | 2.9E-08 | 3.1E-06 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,2-Dibromoethane | 5.6E-09 | N/A | 7.0E-08 | 7.6E-08 | | | | | | |
| | | | Trichloroethene | 2.6E-09 | N/A | 3.3E-08 | 3.6E-08 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 3.1E-10 | N/A | 1.4E-08 | 1.4E-08 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 5.6E-10 | N/A | 2.3E-08 | 2.4E-08 | | | | | | |
| | | | 4-Nitroaniline | 1.4E-09 | N/A | 5.9E-08 | 6.1E-08 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 3.2E-08 | N/A | 1.3E-08 | 1.4E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Atrazine | 6.2E-09 | N/A | 2.6E-07 | 2.6E-07 | | | | | | |
| | | | Benzo(a)anthracene | 2.0E-08 | N/A | 1.1E-06 | 1.1E-06 | | | | | | |
| | | | Benzo(a)pyrene | 2.0E-07 | N/A | 1.1E-05 | 1.1E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.0E-08 | N/A | 1.1E-06 | 1.1E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.1E-07 | N/A | 1.2E-05 | 1.2E-05 | | | | | | |
| | | | Hexachlorobenzene | 4.5E-08 | N/A | 1.9E-06 | 1.9E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 2.0E-08 | N/A | 1.1E-06 | 1.1E-06 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 8.5E-09 | N/A | 1.2E-06 | 1.2E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 3.1E-08 | N/A | 1.3E-06 | 1.3E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.0E-07 | N/A | 8.1E-06 | 8.3E-06 | | | | | | |
| | | | (Total) | 1.0E-06 | 0.0E+00 | 4.3E-05 | 4.4E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 3.2E-04 |
| Total Risk Across Surface Soil | 9.3E-06 |
| Total Risk Across Subsurface Soil | 9.3E-06 |
| Total Risk Across Surface Water | 2.6E-06 |
| Total Risk Across Sediment | 4.4E-05 |
| Total Risk Across All Media and All Exposure Routes | 3.8E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | N/A |

TABLE 9.12.UA.CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OUS Site 1

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | Arsenic | N/A | N/A | 3.6E-09 | 3.6E-09 | | | | | | |
| | | | Chloroform | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | N/A | N/A | 4.8E-10 | 4.8E-10 | | | | | | |
| | | | 1,1,2-Trichloroethane | N/A | N/A | 1.1E-10 | 1.1E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | N/A | N/A | 2.9E-09 | 2.9E-09 | | | | | | |
| | | | 1,2-Dibromoethane | N/A | N/A | 6.7E-10 | 6.7E-10 | | | | | | |
| | | | 1,2-Dichloroethane | N/A | N/A | 1.1E-10 | 1.1E-10 | | | | | | |
| | | | 1,2-Dichloropropane | N/A | N/A | 1.6E-10 | 1.6E-10 | | | | | | |
| | | | 1,3-Dichlorobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,4-Dichlorobenzene | N/A | N/A | 3.1E-10 | 3.1E-10 | | | | | | |
| | | | Benzene | N/A | N/A | 2.1E-10 | 2.1E-10 | | | | | | |
| | | | Bromodichloromethane | N/A | N/A | 9.9E-11 | 9.9E-11 | | | | | | |
| | | | Bromoform | N/A | N/A | 1.0E-11 | 1.0E-11 | | | | | | |
| | | | Bromomethane | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Carbon tetrachloride | N/A | N/A | 6.7E-10 | 6.7E-10 | | | | | | |
| | | | Dibromochloromethane | N/A | N/A | 9.1E-11 | 9.1E-11 | | | | | | |
| | | | Tetrachloroethene | N/A | N/A | 5.7E-10 | 5.7E-10 | | | | | | |
| | | | Vinyl chloride | N/A | N/A | 2.1E-09 | 2.1E-09 | | | | | | |
| | | | cis-1,3-Dichloropropene | N/A | N/A | 1.3E-10 | 1.3E-10 | | | | | | |
| | | | trans-1,3-Dichloropropene | N/A | N/A | 1.3E-10 | 1.3E-10 | | | | | | |
| | | | 2,2'-Oxybis(1-chloropropane) | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,4,6-Trichlorophenol | N/A | N/A | 9.2E-10 | 9.2E-10 | | | | | | |
| | | | 2,4-Dinitrophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Chlorophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | N/A | N/A | 2.1E-08 | 2.1E-08 | | | | | | |
| | | | 3-Nitroaniline | N/A | N/A | 3.0E-10 | 3.0E-10 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | N/A | N/A | 3.1E-10 | 3.1E-10 | | | | | | |
| | | | Benzo(a)anthracene | N/A | N/A | 1.3E-06 | 1.3E-06 | | | | | | |
| | | | Benzo(a)pyrene | N/A | N/A | 2.6E-05 | 2.6E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | N/A | 2.7E-06 | 2.7E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | N/A | N/A | 2.4E-07 | 2.4E-07 | | | | | | |
| | | | Chrysene | N/A | N/A | 1.3E-08 | 1.3E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | N/A | N/A | 5.1E-05 | 5.1E-05 | | | | | | |
| | | | Dibenzofuran | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | N/A | N/A | 1.1E-06 | 1.1E-06 | | | | | | |
| | | | Hexachlorobutadiene | N/A | N/A | 2.4E-08 | 2.4E-08 | | | | | | |
| | | | Hexachloroethane | N/A | N/A | 1.3E-09 | 1.3E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | N/A | N/A | 3.2E-06 | 3.2E-06 | | | | | | |
| | | | Naphthalene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | N/A | N/A | 3.2E-07 | 3.2E-07 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | N/A | 2.8E-09 | 2.8E-09 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | N/A | N/A | 5.1E-09 | 5.1E-09 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | N/A | N/A | 2.8E-08 | 2.8E-08 | | | | | | |
| | | | (Total) | 0.0E+00 | N/A | 8.8E-05 | 8.8E-05 | (Total) | | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Groundwater | 8.8E-05 | | | Total Hazard Index Across All Media and All Exposure Routes | | | | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 8.8E-05 | | | | | | |

TABLE 3.1.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 0.9 | NA | 4.1 | | mg/kg | 4.1 | Max | (1) | 0.9 | Mean-N | (1) |
| Chromium | mg/kg | 2.3 | NA | 12.8 | | mg/kg | 12.8 | Max | (1) | 2.3 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| Benzo(a)anthracene | mg/kg | 0.186 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| Chrysene | mg/kg | 0.186 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 0.186 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| benzo(k)fluoranthene | mg/kg | 0.186 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| 2-Nitroaniline | mg/kg | 0.47 | NA | 1.1 | U | mg/kg | 0.55 | Max | (1) | 0.47 | Mean-N | (1) |
| 3-Nitroaniline | mg/kg | 0.47 | NA | 1.1 | U | mg/kg | 0.55 | Max | (1) | 0.47 | Mean-N | (1) |
| 4-Nitroaniline | mg/kg | 0.47 | NA | 1.1 | U | mg/kg | 0.55 | Max | (1) | 0.47 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Hexachlorobenzene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

0.186

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.2.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 0.9 | NA | 4.1 | | mg/kg | 4.1 | Max | (1) | 0.9 | Mean-N | (1) |
| Chromium | mg/kg | 2.3 | NA | 12.8 | | mg/kg | 12.8 | Max | (1) | 2.3 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.3.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 0.9 | NA | 7.6 | J | µg/L | 7.6 | Max | (1) | 0.9 | Mean-N | (1) |
| Chromium | µg/L | 0.5 | NA | 9.3 | J | µg/L | 9.3 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| cis-1,2-Dichloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzo(a)pyrene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(b)fluoranthene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 1,1,2,2-Tetrachloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,1,2-Trichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromo-3-chloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromoethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 2-Hexanone | µg/L | 2.0 | NA | 4.0 | U | µg/L | 2.0 | Max | (1) | 2.0 | Mean-N | (1) |
| Bromodichloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Carbon tetrachloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Dibromochloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Tetrachloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Vinyl chloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| cis-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| trans-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 2,4,6-Trichlorophenol | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2,4-Dinitrotoluene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2,6-Dinitrotoluene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2-Methylnaphthalene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2-Nitroaniline | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| 3,3'-Dichlorobenzidine | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 3-Nitroaniline | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| 4,6-Dinitro-2-methylphenol | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| 4-Nitroaniline | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| Acenaphthylene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(a)anthracene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(k)fluoranthene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Chrysene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Dibenz(a,h)anthracene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |

TABLE 3.3.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Dibenzofuran | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Hexachlorobenzene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Hexachlorobutadiene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Hexachloroethane | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Naphthalene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Pentachlorophenol | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| bis(2-Ethylhexyl)phthalate | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.4.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.9 | NA | 4.2 | J | mg/kg | 4.2 | Max | (1) | 2.9 | Mean-N | (1) |
| Chromium | mg/kg | 14.5 | NA | 31 | J | mg/kg | 31 | Max | (1) | 14.5 | Mean-N | (1) |
| Benzene | mg/kg | 0.01 | NA | 0.04 | U | mg/kg | 0.02 | Max | (1) | 0.01 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.01 | NA | 0.04 | U | mg/kg | 0.02 | Max | (1) | 0.01 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Chrysene | mg/kg | 0.6 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.6 | Mean-N | (1) |
| Benzo(k)fluoranthene | mg/kg | 0.6 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.6 | Mean-N | (1) |
| 1,2-Dibromoethane | mg/kg | 0.01 | NA | 0.04 | U | mg/kg | 0.02 | Max | (1) | 0.01 | Mean-N | (1) |
| 2,4,6-Trichlorophenol | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| 2-Nitroaniline | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| 3,3'-Dichlorobenzidine | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| 3-Nitroaniline | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| 4-Nitroaniline | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzo(a)anthracene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Hexachlorobenzene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Pentachlorophenol | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |

Receptor type: Industrial Worker, Trespasser/Visitor
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.5.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Chromium | µg/L | 2.5 | NA | 29.3 | | µg/L | 2.5 | Mean-N | (1) | 2.5 | Mean-N | (1) |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 0.63 | Mean-N | (1) | 0.63 | Mean-N | (1) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 1.1 | Mean-N | (1) | 1.1 | Mean-N | (1) |
| Arsenic | µg/L | 1.5 | NA | 5.2 | J | µg/L | 1.5 | Mean-N | (1) | 1.5 | Mean-N | (1) |
| Benzo(a)pyrene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Benzo(b)fluoranthene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 1,1,2,2-Tetrachloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,1,2-Trichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromo-3-chloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromoethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,3-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,4-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromodichloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromoform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromomethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Carbon tetrachloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Chloroform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Dibromochloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Tetrachloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Vinyl chloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| cis-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| trans-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 2,2'-Oxybis(1-chloropropane) | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2,4,6-Trichlorophenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2,4-Dinitrophenol | µg/L | 10.3 | NA | 26.0 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| 2,6-Dinitrotoluene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2-Chlorophenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2-Nitroaniline | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| 3,3'-Dichlorobenzidine | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 3-Nitroaniline | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| 4,6-Dinitro-2-methylphenol | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |

TABLE 3.5.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| 4-Methylphenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 4-Nitroaniline | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| Benzo(a)anthracene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Benzo(k)fluoranthene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Chrysene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Dibenz(a,h)anthracene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Dibenzofuran | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Hexachlorobenzene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Hexachlorobutadiene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Hexachloroethane | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Naphthalene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Nitrobenzene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Pentachlorophenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| bis(2-Chloroethoxy)methane | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| bis(2-Ethylhexyl)phthalate | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the arithmetic average used as the RME and CT concentration.

TABLE 3.6.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Chromium | µg/L | 2.5 | NA | 29.3 | | µg/L | 2.5 | Mean-N | (1) | 2.5 | Mean-N | (1) |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 0.63 | Mean-N | (1) | 0.63 | Mean-N | (1) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 1.1 | Mean-N | (1) | 1.1 | Mean-N | (1) |
| Arsenic | µg/L | 1.5 | NA | 5.2 | J | µg/L | 1.5 | Mean-N | (1) | 1.5 | Mean-N | (1) |
| Benzo(a)pyrene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Benzo(b)fluoranthene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 1,1,2,2-Tetrachloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,1,2-Trichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromo-3-chloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromoethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,3-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,4-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromodichloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromoform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromomethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Carbon tetrachloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Chloroform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Dibromochloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Tetrachloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Vinyl chloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| cis-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| trans-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 2,2'-Oxybis(1-chloropropane) | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2,4,6-Trichlorophenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2,4-Dinitrophenol | µg/L | 10.3 | NA | 26.0 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| 2,6-Dinitrotoluene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2-Chlorophenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 2-Nitroaniline | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| 3,3'-Dichlorobenzidine | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 3-Nitroaniline | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| 4,6-Dinitro-2-methylphenol | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |

TABLE 3.6.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| 4-Methylphenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| 4-Nitroaniline | µg/L | 10.3 | NA | 26 | U | µg/L | 10.3 | Mean-N | (1) | 10.3 | Mean-N | (1) |
| Benzo(a)anthracene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Benzo(k)fluoranthene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Chrysene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Dibenz(a,h)anthracene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Dibenzofuran | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Hexachlorobenzene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Hexachlorobutadiene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Hexachloroethane | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Naphthalene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Nitrobenzene | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| Pentachlorophenol | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| bis(2-Chloroethoxy)methane | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| bis(2-Ethylhexyl)phthalate | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | µg/L | 2.6 | NA | 6.0 | U | µg/L | 2.6 | Mean-N | (1) | 2.6 | Mean-N | (1) |

Receptor type: Construction Worker
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the arithmetic average used as the RME and CT concentration.

TABLE 3.7.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Showerhead

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 0.63 | Mean-N | (1) | 0.63 | Mean-N | (1) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 1.1 | Mean-N | (1) | 1.1 | Mean-N | (1) |
| 1,1,2,2-Tetrachloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,1,2-Trichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromo-3-chloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromoethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,3-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,4-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromodichloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromoform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromomethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Carbon tetrachloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Chloroform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Dibromochloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Tetrachloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Vinyl chloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| cis-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| trans-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the arithmetic average used as the RME and CT concentration.

TABLE 3.8.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Water Vapors at Excavation Pit

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzene | µg/L | 0.63 | NA | 2.0 | | µg/L | 0.63 | Mean-N | (1) | 0.63 | Mean-N | (1) |
| cis-1,2-Dichloroethene | µg/L | 1.1 | NA | 9.0 | | µg/L | 1.1 | Mean-N | (1) | 1.1 | Mean-N | (1) |
| 1,1,2,2-Tetrachloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,1,2-Trichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromo-3-chloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromoethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,3-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| 1,4-Dichlorobenzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromodichloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromoform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Bromomethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Carbon tetrachloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Chloroform | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Dibromochloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Tetrachloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| Vinyl chloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| cis-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |
| trans-1,3-Dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Mean-N | (1) | 0.5 | Mean-N | (1) |

Receptor type: Construction Worker
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Following EPA Region IV guidance, the arithmetic average used as the RME and CT concentration.

TABLE 3.9.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 0.9 | NA | 4.1 | | mg/kg | 4.1 | Max | (1) | 0.9 | Mean-N | (1) |
| Chromium | mg/kg | 2.3 | NA | 12.8 | | mg/kg | 12.8 | Max | (1) | 2.3 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| Benzo(a)anthracene | mg/kg | 0.372 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.372 | Mean-N | (1) |
| Chrysene | mg/kg | 0.372 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.372 | Mean-N | (1) |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 0.372 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.372 | Mean-N | (1) |
| benzo(k)fluoranthene | mg/kg | 0.372 | NA | 0.43 | U | mg/kg | 0.215 | Max | (1) | 0.372 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| 2-Nitroaniline | mg/kg | 0.47 | NA | 1.1 | U | mg/kg | 0.55 | Max | (1) | 0.47 | Mean-N | (1) |
| 3-Nitroaniline | mg/kg | 0.47 | NA | 1.1 | U | mg/kg | 0.55 | Max | (1) | 0.47 | Mean-N | (1) |
| 4-Nitroaniline | mg/kg | 0.47 | NA | 1.1 | U | mg/kg | 0.55 | Max | (1) | 0.47 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Hexachlorobenzene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| n-Nitroso-di-n-propylamin | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.10.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 0.9 | NA | 4.1 | | mg/kg | 4.1 | Max | (1) | 0.9 | Mean-N | (1) |
| Chromium | mg/kg | 2.3 | NA | 12.8 | | mg/kg | 12.8 | Max | (1) | 2.3 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.19 | NA | 0.43 | U | mg/kg | 0.22 | Max | (1) | 0.19 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.11.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzo(a)pyrene | mg/kg | 0.284 | NA | 0.930 | | mg/kg | 0.930 | Max | (1) | 0.284 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.355 | NA | 1.500 | | mg/kg | 1.500 | Max | (1) | 0.355 | Mean-N | (1) |
| Benzo(a)anthracene | mg/kg | 0.186 | NA | 0.430 | | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| Chrysene | mg/kg | 0.186 | NA | 0.430 | | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| Benzo(k)fluoranthene | mg/kg | 0.186 | NA | 0.430 | | mg/kg | 0.215 | Max | (1) | 0.186 | Mean-N | (1) |
| Arsenic | mg/kg | 2.5 | NA | 3.8 | | mg/kg | 3.8 | Max | (1) | 2.5 | Mean-N | (1) |
| Chromium | mg/kg | 9 | NA | 13.8 | K | mg/kg | 13.8 | Max | (1) | 9 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| 1,2-Dibromoethane | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| 2-Nitroaniline | mg/kg | 0.48 | NA | 1.0 | U | mg/kg | 0.5 | Max | (1) | 0.48 | Mean-N | (1) |
| 3-Nitroaniline | mg/kg | 0.48 | NA | 1.0 | U | mg/kg | 0.5 | Max | (1) | 0.48 | Mean-N | (1) |
| 4-Nitroaniline | mg/kg | 0.48 | NA | 1.0 | U | mg/kg | 0.5 | Max | (1) | 0.48 | Mean-N | (1) |
| Acetophone | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |
| Hexachlorobenzene | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.3 | NA | 0.72 | U | mg/kg | 0.36 | Max | (1) | 0.3 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.12.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Benzo(a)pyrene | mg/kg | 0.3 | NA | 0.93 | | mg/kg | 0.93 | Max | (1) | 0.3 | Mean-N | (1) |
| Arsenic | mg/kg | 2.5 | NA | 3.8 | | mg/kg | 3.8 | Max | (1) | 2.5 | Mean-N | (1) |
| Chromium | mg/kg | 9 | NA | 13.8 | K | mg/kg | 13.8 | Max | (1) | 9 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.4 | NA | 1.50 | | mg/kg | 1.5 | Max | (1) | 0.4 | Mean-N | (1) |
| Acetophone | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.13.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.5 | NA | 3.8 | | mg/kg | 3.8 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.3 | NA | 0.93 | | mg/kg | 0.93 | Max | (1) | 0.3 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.4 | NA | 1.50 | | mg/kg | 1.5 | Max | (1) | 0.4 | Mean-N | (1) |
| Chromium | mg/kg | 9 | NA | 13.8 | K | mg/kg | 13.8 | Max | (1) | 9 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| Acetophone | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.2 | NA | 0.40 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.14.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Exposed Subsurface Soil

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.460 | NA | 3.800 | | mg/kg | 3.8 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.284 | NA | 0.930 | | mg/kg | 0.93 | Max | (1) | 0.3 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.355 | NA | 1.500 | | mg/kg | 1.5 | Max | (1) | 0.4 | Mean-N | (1) |
| Chromium | mg/kg | 9.390 | NA | 13.800 | K | mg/kg | 13.8 | Max | (1) | 9 | Mean-N | (1) |
| Benzene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.003 | NA | 0.006 | U | mg/kg | 0.003 | Max | (1) | 0.003 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.186 | NA | 0.400 | U | mg/kg | 0.200 | Max | (1) | 0.186 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.192 | NA | 0.400 | U | mg/kg | 0.20 | Max | (1) | 0.2 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.15.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | µg/L | 0.9 | NA | 7.6 | J | µg/L | 7.6 | Max | (1) | 0.9 | Mean-N | (1) |
| Chromium | µg/L | 0.5 | NA | 9.3 | J | µg/L | 9.3 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| cis-1,2-Dichloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzo(a)pyrene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(b)fluoranthene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 1,1,2,2-Tetrachloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,1,2-Trichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromo-3-chloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dibromoethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloroethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 1,2-Dichloropropane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 2-Hexanone | µg/L | 2.0 | NA | 4.0 | U | µg/L | 2.0 | Max | (1) | 2.0 | Mean-N | (1) |
| Bromodichloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Carbon tetrachloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Dibromochloromethane | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Tetrachloroethene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| Vinyl Chloride | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| cis-1,3-dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| trans-1,3-dichloropropene | µg/L | 0.5 | NA | 1.0 | U | µg/L | 0.5 | Max | (1) | 0.5 | Mean-N | (1) |
| 2,4,6-Trichlorophenol | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2,4-Dinitrotoluene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2,6-Dinitrotoluene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2-Methylnaphthalene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 2-Nitroaniline | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| 3,3'-Dichlorobenzidine | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| 3-Nitroaniline | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| 4,6-Dinitro-2-methylphenol | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| 4-Nitroaniline | µg/L | 10 | NA | 20 | U | µg/L | 10.0 | Max | (1) | 10.0 | Mean-N | (1) |
| Acenaphthylene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(a)anthracene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Benzo(k)fluoranthene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Chrysene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Dibenz(a,h)anthracene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Dibenzofuran | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Hexachlorobenzene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Hexachlorobutadiene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |

TABLE 3.15.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Hexachloroethane | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Naphthalene | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| Pentachlorophenol | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| bis(2-Ethylhexyl)phthalate | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | µg/L | 2.5 | NA | 5.0 | U | µg/L | 2.5 | Max | (1) | 2.5 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 3.16.UA
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 2, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries

| Chemical of Potential Concern | Units | Arithmetic Mean | 95% UCL of Normal Data | Maximum Detected Concentration | Maximum Qualifier | EPC Units | Reasonable Maximum Exposure | | | Central Tendency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale | Medium EPC Value | Medium EPC Statistic | Medium EPC Rationale |
| Arsenic | mg/kg | 2.9 | NA | 4.2 | J | mg/kg | 4.2 | Max | (1) | 2.9 | Mean-N | (1) |
| Chromium | mg/kg | 14.5 | NA | 31 | J | mg/kg | 31 | Max | (1) | 14.5 | Mean-N | (1) |
| Benzene | mg/kg | 0.01 | NA | 0.04 | U | mg/kg | 0.02 | Max | (1) | 0.01 | Mean-N | (1) |
| cis-1,2-Dichloroethene | mg/kg | 0.01 | NA | 0.04 | U | mg/kg | 0.02 | Max | (1) | 0.01 | Mean-N | (1) |
| Benzo(a)pyrene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzo(b)fluoranthene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Chrysene | mg/kg | 1.1 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 1.1 | Mean-N | (1) |
| benzo(k)fluoranthene | mg/kg | 1.1 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 1.1 | Mean-N | (1) |
| 1,2-Dibromoethane | mg/kg | 0.01 | NA | 0.04 | U | mg/kg | 0.02 | Max | (1) | 0.01 | Mean-N | (1) |
| 2,4,6-Trichlorophenol | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| 2-Nitroaniline | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| 3,3'-Dichlorobenzidine | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| 3-Nitroaniline | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| 4-Nitroaniline | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| Acetophenone | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Benzo(a)anthracene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Dibenz(a,h)anthracene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Hexachlorobenzene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| Pentachlorophenol | mg/kg | 1.2 | NA | 4.4 | U | mg/kg | 2.2 | Max | (1) | 1.2 | Mean-N | (1) |
| bis(2-Chloroethyl)ether | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |
| n-Nitroso-di-n-propylamine | mg/kg | 0.5 | NA | 1.7 | U | mg/kg | 0.9 | Max | (1) | 0.5 | Mean-N | (1) |

Receptor type: Resident
For duplicate results, the higher value was used in the calculations.
For non-detects, one-half the method detection limit was used as the sample concentration.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Fewer than 10 samples. Therefore, used maximum concentration as RME concentration and arithmetic average as CT concentration.

TABLE 7.1.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 4.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 1.3E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.2E-03 |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 2.9E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 9.8E-07 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 2.9E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.9E-07 |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 5.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 5.4E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 5.4E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.1E-06 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.6E-04 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.0E-02 |
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 2.0E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.8E-04 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 8.0E-03 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 9.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 9.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.0E-03 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 9.1E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.0E-04 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 3.6E-06 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 4.5E-04 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.5E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.4E-02 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.2.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.7E-03 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 3.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-03 |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 8.2E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.7E-07 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 8.2E-10 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 8.2E-08 |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.0E-04 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.0E-05 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 5.9E-07 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 7.4E-05 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.5E-03 |
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 1.7E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.7E-05 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 6.0E-03 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.6E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.6E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.5E-05 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 3.0E-07 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.7E-05 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | | | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 3.7E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5.9E-03 |

NABS - No absorption fraction available.
(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.3.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 2.0E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 6.3E-10 | mg/kg-day | 3.0E-05 | mg/kg-day | N/A | N/A | 2.1E-05 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 8.3E-08 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 4.9E-05 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 2.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.5E-06 | $mg/m^3$ | R | 1.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.1E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.1E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 4.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 7.0E-05 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 7.0E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

**Table 7.3.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 1.62E-03 | 1.62E-03 | 1.61E-06 | 8.62E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.4.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 1.4E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 4.4E-11 | mg/kg-day | 3.0E-05 | mg/kg-day | N/A | N/A | 1.5E-06 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 5.8E-09 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 3.4E-06 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 1.8E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.5E-06 | $mg/m^3$ | R | 1.1E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 7.4E-13 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 7.4E-13 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 3.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.9E-06 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.9E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

**Table 7.4.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
*MCAS Cherry Point, OU5 Site 2*

| Chemical | Diffusivity in Air ($D_I$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 1.62E-03 | 1.62E-03 | 1.61E-06 | 8.62E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_I * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.5.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OUS Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 3.6E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-03 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 4.4E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.5E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.8E-06 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.9E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.9E-06 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.8E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 9.4E-08 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | Carbon Tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 3.4E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.8E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.8E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.8E-07 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 5.9E-05 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.2E-04 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.9E-06 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.7E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.7E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 4.7E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.7E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.6E-04 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.9E-05 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.5E-04 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 5.9E-04 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.2E-04 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | N/A |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.9E-06 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.9E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.9E-06 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.9E-03 |

TABLE 7.5.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 3.6E-11 | mg/kg-day | 3.00E-04 | mg/kg-day | N/A | N/A | 1.2E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 8.7E-11 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.5E-11 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-08 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-11 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.0E-09 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.00E-01 | µg/L | 5.00E-01 | µg/L | M | 2.0E-11 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.3E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-11 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 4.3E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.2E-12 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-11 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.6E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.8E-11 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 9.0E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.5E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-11 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 6.0E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-12 | mg/kg-day | 1.6E-02 | mg/kg-day | N/A | N/A | 5.2E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.6E-11 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 8.6E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.7E-07 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-11 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.5E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-11 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.0E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.1E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-11 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 2.3E-08 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.1E-11 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 3.1E-08 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.7E-08 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.3E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.6E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.2E-10 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-10 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 5.7E-06 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.2E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.9E-08 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.8E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.8E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.5E-10 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.1E-07 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.2E-09 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 4.0E-06 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-08 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 7.6E-06 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-10 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 5.3E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.5E-10 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.8E-08 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-09 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 3.8E-07 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.0E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.9E-11 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.1E-05 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.9E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for naphthalene used as surrogate RfD for acenaphthylene.

Table 7.5.A.RME.UA Supplement
Calculation of Daevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 6.1E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 8 | 1.5E-07 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 8 | 5.9E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 8 | 3.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 8 | 2.6E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 8 | 2.7E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 8 | 3.4E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 8 | 2.9E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 8 | 2.5E-08 | 3 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 8 | 1.1E-08 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 8 | 1.8E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 8 | 3.5E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 8 | 6.1E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 8 | 2.2E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 8 | 7.2E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 8 | 1.4E-08 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 8 | 1.5E-07 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 8 | 2.3E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 8 | 1.9E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 8 | 1.9E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 8 | 8.7E-07 | 3 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 8 | 7.9E-08 | 3 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 8 | 5.4E-08 | 3 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 8 | 2.3E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 8 | 2.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 8 | 4.4E-07 | 3 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 8 | 2.0E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 8 | 9.8E-07 | 3 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 5.1E-02 | 8 | 2.0E-07 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 1.0E-02 | 8 | 2.6E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.3E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 8 | 2.4E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.3E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 8 | 4.9E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 8 | 1.4E-06 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 8 | 5.4E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 8 | 2.6E-06 | 3 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 8 | 9.1E-07 | 3 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 8 | 3.1E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 8 | 9.4E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 8 | 1.5E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 8 | 4.2E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 8 | 2.7E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 8 | 4.9E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

Table 7.5.RME.UA Supplement B
Calculation of DAevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 7.6.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 5.4E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 6.6E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.2E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-05 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.6E-06 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 5.9E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 8.9E-06 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 3.6E-06 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 5.1E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.6E-06 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-05 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 8.9E-05 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.9E-06 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.1E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 7.1E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.1E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.4E-04 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 4.5E-05 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.2E-04 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 8.9E-04 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.9E-06 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.9E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.9E-06 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.3E-02 |

TABLE 7.6.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 3.5E-11 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 6.5E-11 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 1.1E-06 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-11 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-08 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-11 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-09 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-11 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 4.5E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-11 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.3E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.9E-12 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-11 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.1E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.2E-11 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 1.0E-09 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-11 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.8E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.7E-11 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 8.2E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 1.6E-02 | mg/kg-day | N/A | N/A | 8.0E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-10 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.3E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-11 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.0E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.4E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-11 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.4E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.6E-11 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 3.3E-08 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.5E-11 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 4.5E-08 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.0E-07 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.9E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-10 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.8E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.8E-10 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 8.8E-06 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.9E-08 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-09 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.3E-07 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.1E-09 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.0E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-09 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 1.7E-05 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.0E-09 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.0E-06 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.3E-10 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.6E-08 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-08 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 1.0E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.1E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.2E-07 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.5E-11 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.1E-05 |
| | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | | 1.4E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.6A.RME.UA Supplement
Calculation of Daevent
Trespasser/Visitor, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 5.1E-02 | 2.6 | 8.4E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 1.0E-02 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm² (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm² (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 7.7.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 2.5E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.2E-04 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 1.8E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.1E-04 |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 1.2E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.9E-07 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 1.2E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.2E-07 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 1.2E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.3E-04 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.3E-05 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 5.0E-07 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 6.2E-05 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.3E-06 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.0E-03 |
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.2E-04 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 1.0E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.3E-08 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 6.0E-10 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 6.0E-08 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 6.0E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.3E-04 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.3E-05 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 8.5E-07 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.1E-04 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 5.5E-07 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 2.4E-05 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.4E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.3E-03 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.8.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-03 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 8.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.8E-03 |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.5E-07 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.0E-03 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.0E-04 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.9E-04 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.0E-05 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.2E-03 |

TABLE 7.8.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 2.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.0E-04 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 1.7E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.5E-08 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 9.9E-10 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 9.9E-08 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 9.9E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-03 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-04 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 1.4E-06 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 9.1E-07 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 4.0E-05 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.3E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.1E-02 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.8.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-03 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 8.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.8E-03 |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-06 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.5E-07 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.0E-03 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.0E-04 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.9E-04 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.0E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.0E-05 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.2E-03 |

TABLE 7.9.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.9E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.3E-02 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 1.7E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.8E-03 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 2.9E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.9E-03 |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 4.0E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.4E-03 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.8E-04 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.8E-04 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 9.8E-03 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 2.0E-02 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.8E-04 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.6E-03 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.8E-04 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.4E-01 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 7.0E-02 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.4E-02 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.8E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.9.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.8E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 9.4E-01 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.8E-04 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 2.8E+00 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.4E-02 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.8E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 9.4E-02 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.8E-02 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 8.8E-02 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 3.5E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 7.0E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.5E-03 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 1.4E-01 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.3E-03 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.5E-03 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.0E+00 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 5.0E+00 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.10.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.4E-02 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 4.0E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 6.8E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 6.8E-03 |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 9.4E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.1E-01 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 5.3E-04 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 8.0E-03 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 2.3E-02 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 4.6E-02 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.6E-04 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 3.3E-01 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.6E-01 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 3.3E-02 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.10.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.6E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.2E+00 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.6E-04 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 6.6E+00 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 3.3E-02 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.6E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.2E-01 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 4.1E-02 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.1E-01 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 8.2E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.6E-01 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.2E-03 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 3.3E-01 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.5E-03 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.2E-03 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.2E+01 |
| Dermal | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 1.4E-02 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 5.7E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.9E-03 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 5.6E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.6E-04 |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 3.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.0E-03 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-02 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-02 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.9E-06 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 8.2E-05 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 7.9E-04 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.9E-05 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.9E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 8.8E-04 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.5E-04 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.4E-07 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 6.7E-04 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.0E-05 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 1.5E-02 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.9E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.9E-04 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.8E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.6E-03 |

TABLE 7.10.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.8E-04 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.6E-05 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.6E-05 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.0E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.1E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 2.6E-02 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.9E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 8.9E-03 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 4.0E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.5E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.2E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.9E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 5.3E-04 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.8E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.2E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.1E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.2E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-02 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.0E-04 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 7.6E-02 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-03 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.5E+00 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-03 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 5.5E+00 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-04 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 2.8E-01 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-02 | mg/kg-day | N/A | | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-04 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.2E-03 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 2.4E-02 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.6E-03 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 3.7E-01 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.2E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.0E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-03 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 7.7E-02 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.9E+00 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.2E+01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

Table 7.10.RME.UA Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 2.5E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 1.7E-09 | 1 |
| Benzene | 6.3E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 8.9E-09 | 2 |
| cis-1,2-Dichloroethene | 1.1E+00 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.8E-01 | 7.2E-03 | 0.33 | 8.8E-09 | 2 |
| Arsenic | 1.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 4.8E-10 | 1 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 4.5E-09 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.6E-08 | 2 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.2E-07 | 2 |
| 2,4-Dinitrotoluene | 1.0E+01 | 3.0E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 0.33 | 8.0E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.4E-08 | 2 |
| 2-Chlorophenol | 2.6E+00 | 8.0E-03 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 3.1E-08 | 2 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 3.9E-08 | 2 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.5E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.2E-07 | 3.2E+00 | 5.1E-02 | 0.33 | 3.0E-08 | 2 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 3.9E-07 | 1.0E+00 | 2.0E-02 | 0.33 | 4.1E-09 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 2.7E-07 | 1.5E+00 | 1.0E-02 | 0.33 | 7.5E-09 | 2 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 6.1E-08 | 1.2E+01 | 4.0E+00 | 0.33 | 1.1E-07 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 4.9E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 4.7E-07 | 2 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 4.4E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 1.7E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 4.4E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 5.7E+00 | 0.33 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 1.9E-07 | 2 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 1.9E-08 | 2 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.3E-05 | 2 |
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 1.7E-07 | 2.4E+00 | 5.8E-03 | 0.33 | 9.7E-10 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 0.33 | 7.8E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 0.33 | 2.4E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 0.33 | 8.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm³ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm³ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

Table 7.10.RME.UA Supplement B
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 7.11.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.8E-07 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 7.6E-04 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 7.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 6.7E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 6.7E-06 |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.7E-04 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 5.2E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 6.9E-06 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.9E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.8E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.2E-05 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.5E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.0E-05 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-01 | mg/kg-day | N/A | N/A | 7.0E-07 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-07 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 8.2E-05 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.8E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 9.6E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.9E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.9E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 2.0E-01 | mg/kg-day | N/A | N/A | 6.6E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-06 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.4E-05 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.0E-05 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.0E-05 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.4E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-06 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.5E-03 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.2E-05 |

TABLE 7.11.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-06 | mg/kg-day | 5.0E-02 | mg/kg-day | N/A | N/A | 3.3E-05 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.9E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 6.4E-03 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.9E-06 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 6.9E-02 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-07 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.9E-04 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.8E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.5E-03 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 6.5E-02 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.5E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.7E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 8.7E-03 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.0E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.1E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.5E-04 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-04 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 6.3E-03 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.2E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.9E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.9E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

Table 7.11.RME.UA Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction absorbed Water (FA) dimensionless | Lag Time (τ) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 2.5E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 8 | 4.0E-08 | 1 |
| Benzene | 6.3E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 8 | 7.5E-08 | 3 |
| cis-1,2-Dichloroethene | 1.1E+00 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 8 | 7.1E-08 | 3 |
| Arsenic | 1.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 1.2E-08 | 1 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 8 | 2.7E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 8 | 2.7E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 8 | 3.4E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 8 | 2.9E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 8 | 2.5E-08 | 3 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 8 | 1.1E-08 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 8 | 1.8E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 8 | 3.5E-08 | 3 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 8 | 2.3E-07 | 3 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 8 | 1.8E-07 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 8 | 2.2E-08 | 3 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 8 | 1.5E-08 | 3 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 8 | 1.2E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 8 | 7.2E-08 | 3 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 8 | 3.0E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 8 | 1.4E-08 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 8 | 1.5E-07 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 8 | 2.4E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 8 | 1.9E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 8 | 1.9E-08 | 3 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 8 | 1.2E-07 | 3 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 8 | 8.9E-07 | 3 |
| 2,4-Dinitrotoluene | 1.0E+01 | 3.0E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 8 | 3.2E-07 | 3 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 8 | 5.5E-08 | 3 |
| 2-Chlorophenol | 2.6E+00 | 8.0E-03 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 8 | 1.7E-07 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 8 | 2.3E-07 | 3 |

Table 7.11.RME.UA Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) dimensionless | Lag Time (τ) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 8 | 4.5E-07 | 3 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 8 | 2.0E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.2E-07 | 3.2E+00 | 5.1E-02 | 8 | 7.4E-07 | 3 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 3.9E-07 | 1.0E+00 | 2.0E-02 | 8 | 1.0E-07 | 3 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 2.7E-07 | 1.5E+00 | 1.0E-02 | 8 | 1.8E-07 | 3 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.4E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 6.1E-08 | 1.2E+01 | 4.0E+00 | 8 | 2.7E-06 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.4E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 8 | 5.1E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 8 | 1.5E-06 | 3 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 8 | 5.6E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 8 | 2.7E-06 | 3 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 8 | 9.3E-07 | 3 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 8 | 3.2E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 8 | 9.7E-07 | 3 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 8 | 1.2E-07 | 3 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 8 | 1.5E-05 | 2 |
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 1.7E-07 | 2.4E+00 | 5.8E-03 | 8 | 2.4E-08 | 3 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 8 | 4.3E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 8 | 2.8E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 8 | 5.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 7.12.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 1.7E-05 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 1.0E-02 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 2.9E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 5.7E-05 | mg/kg-day | N/A | N/A | 2.4E-01 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 5.7E-05 | mg/kg-day | N/A | N/A | 2.4E-01 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 9.8E-03 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E-03 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 2.3E-01 | mg/kg-day | N/A | N/A | 6.0E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 9.8E-03 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 5.7E-04 | mg/kg-day | N/A | N/A | 2.4E-02 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 8.6E-05 | mg/kg-day | N/A | N/A | 1.6E-01 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-01 | mg/kg-day | N/A | N/A | 9.8E-05 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 2.8E-02 | mg/kg-day | N/A | N/A | 4.9E-04 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 5.7E-03 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-05 | mg/kg-day | 5.7E-03 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | (Total) | | | | | | | | | | | | 7.1E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 7.1E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic inhalation.

TABLE 7.13.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Benzene | 6.3E-01 | µg/L | 1.4E-07 | mg/m$^3$ | R | 2.9E-06 | mg/kg-day | 1.7E-02 | mg/kg-day | 5.9E-03 | mg/m$^3$ | 1.7E-04 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 2.2E-07 | mg/m$^3$ | R | 4.6E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 8.9E-08 | mg/m$^3$ | R | 1.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 9.4E-08 | mg/m$^3$ | R | 2.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 7.4E-08 | mg/m$^3$ | R | 1.6E-06 | mg/kg-day | 5.7E-05 | mg/kg-day | 2.0E-04 | mg/m$^3$ | 2.8E-02 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 8.6E-08 | mg/m$^3$ | R | 1.8E-06 | mg/kg-day | 5.7E-04 | mg/kg-day | 2.0E-03 | mg/m$^3$ | 3.2E-03 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 1.0E-07 | mg/m$^3$ | R | 2.2E-06 | mg/kg-day | 1.4E-03 | mg/kg-day | 4.9E-03 | mg/m$^3$ | 1.5E-03 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 9.8E-08 | mg/m$^3$ | R | 2.1E-06 | mg/kg-day | 3.7E-03 | mg/kg-day | 1.3E-02 | mg/m$^3$ | 5.6E-04 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 9.2E-08 | mg/m$^3$ | R | 2.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 9.2E-08 | mg/m$^3$ | R | 2.0E-06 | mg/kg-day | 7.1E-01 | mg/kg-day | 6.0E-02 | mg/m$^3$ | 2.8E-06 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 8.9E-08 | mg/m$^3$ | R | 1.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Bromoform | 5.0E-01 | µg/L | 1.0E-07 | mg/m$^3$ | R | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Bromomethane | 5.0E-01 | µg/L | 9.1E-08 | mg/m$^3$ | R | 2.2E-06 | mg/kg-day | 1.4E-03 | mg/kg-day | 5.0E-03 | mg/m$^3$ | 1.6E-03 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 9.7E-08 | mg/m$^3$ | R | 1.9E-06 | mg/kg-day | 5.7E-04 | mg/kg-day | 2.0E-03 | mg/m$^3$ | 3.4E-03 |
| | Chloroform | 5.0E-01 | µg/L | 8.4E-08 | mg/m$^3$ | R | 2.1E-06 | mg/kg-day | 8.6E-04 | mg/kg-day | 3.0E-03 | mg/m$^3$ | 2.4E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 8.9E-08 | mg/m$^3$ | R | 1.8E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Tetrachloroethene | 5.0E-01 | µg/L | 1.1E-07 | mg/m$^3$ | R | 1.9E-06 | mg/kg-day | 1.4E-01 | mg/kg-day | 4.9E-01 | mg/m$^3$ | 1.4E-05 |
| | Vinyl chloride | 5.0E-01 | µg/L | 9.9E-08 | mg/m$^3$ | R | 2.4E-06 | mg/kg-day | 2.8E-02 | mg/kg-day | 1.0E-01 | mg/m$^3$ | 8.6E-05 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 9.9E-08 | mg/m$^3$ | R | 2.1E-06 | mg/kg-day | 5.7E-03 | mg/kg-day | 2.0E-02 | mg/m$^3$ | 3.7E-04 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 0.0E+00 | mg/m$^3$ | R | 2.1E-06 | mg/kg-day | 5.7E-03 | mg/kg-day | 2.0E-02 | mg/m$^3$ | 3.7E-04 |
| | (Total) | | | | | | | | | | | | 4.1E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.1E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available, else chronic.

## Table 7.13.RME.UA Supplement
## Inhalation of Volatiles from Groundwater During Construction
## Inhalation Exposure Concentrations Calculated Using a Two-Film Volatilization Model
## Future Construction Worker Senario
## *MCAS Cherry Point, OU5 Site 2*

| Chemical | Cw (µg/L) | MW (mol/gram) | $K_H$ (unitless) | $k_l$ (cm/hr) | $k_g$ (cm/hr) | $K_v$ (cm/hr) | ER (mg/hr) | ERa (g/sec-m$^2$) | Ca (µg/m$^3$) |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 6.3E-01 | 78.11 | 2.28E-01 | 5.06E-02 | 2.13E+03 | 5.06E-02 | 3.19E-08 | 8.86E-11 | 1.36E-04 |
| cis-1,2-Dichloroethene | 1.1E+00 | 97 | 1.67E-01 | 4.80E-02 | 2.02E+03 | 4.80E-02 | 5.12E-08 | 1.42E-10 | 2.17E-04 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 168 | 1.41E-02 | 4.18E-02 | 1.76E+03 | 4.17E-02 | 2.09E-08 | 5.80E-11 | 8.87E-05 |
| 1,1,2-Trichloroethane | 5.0E-01 | 133 | 3.74E-02 | 4.43E-02 | 1.87E+03 | 4.43E-02 | 2.22E-08 | 6.15E-11 | 9.41E-05 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 236 | 2.49E-04 | 3.84E-02 | 1.62E+03 | 3.51E-02 | 1.75E-08 | 4.87E-11 | 7.45E-05 |
| 1,2-Dibromoethane | 5.0E-01 | 190 | 1.33E-02 | 4.06E-02 | 1.71E+03 | 4.05E-02 | 2.02E-08 | 5.62E-11 | 8.60E-05 |
| 1,2-Dichloroethane | 5.0E-01 | 99 | 4.10E-02 | 4.77E-02 | 2.01E+03 | 4.77E-02 | 2.39E-08 | 6.63E-11 | 1.01E-04 |
| 1,2-Dichloropropane | 5.0E-01 | 113 | 1.15E-01 | 4.62E-02 | 1.95E+03 | 4.62E-02 | 2.31E-08 | 6.41E-11 | 9.81E-05 |
| 1,3-Dichlorobenzene | 5.0E-01 | 147 | 9.96E-02 | 4.32E-02 | 1.82E+03 | 4.32E-02 | 2.16E-08 | 6.00E-11 | 9.19E-05 |
| 1,4-Dichlorobenzene | 5.0E-01 | 147 | 9.96E-02 | 4.32E-02 | 1.82E+03 | 4.32E-02 | 2.16E-08 | 6.00E-11 | 9.19E-05 |
| Bromodichloromethane | 5.0E-01 | 164 | 6.56E-02 | 4.21E-02 | 1.77E+03 | 4.21E-02 | 2.10E-08 | 5.84E-11 | 8.94E-05 |
| Bromoform | 5.0E-01 | 252.8 | 2.19E-02 | 2.62E+00 | 1.59E+03 | 2.44E+00 | 1.22E-06 | 3.39E-09 | 5.19E-03 |
| Bromomethane | 5.0E-01 | 95 | 6.20E-03 | 4.82E-02 | 2.03E+03 | 4.80E-02 | 2.40E-08 | 6.67E-11 | 1.02E-04 |
| Carbon tetrachloride | 5.0E-01 | 154 | 1.25E+00 | 4.27E-02 | 1.80E+03 | 4.27E-02 | 2.14E-08 | 5.94E-11 | 9.08E-05 |
| Chloroform | 5.0E-01 | 119 | 1.50E-01 | 4.56E-02 | 1.92E+03 | 4.56E-02 | 2.28E-08 | 6.33E-11 | 9.68E-05 |
| Dibromochloromethane | 5.0E-01 | 208 | 3.21E-02 | 3.96E-02 | 1.67E+03 | 3.96E-02 | 1.98E-08 | 5.50E-11 | 8.42E-05 |
| Tetrachloroethene | 5.0E-01 | 166 | 7.54E-01 | 4.19E-02 | 1.77E+03 | 4.19E-02 | 2.10E-08 | 5.83E-11 | 8.91E-05 |
| Vinyl chloride | 5.0E-01 | 63 | 1.11E+00 | 5.34E-02 | 2.25E+03 | 5.34E-02 | 2.67E-08 | 7.42E-11 | 1.14E-04 |
| cis-1,3-Dichloropropene | 5.0E-01 | 111 | 7.26E-01 | 4.64E-02 | 1.95E+03 | 4.64E-02 | 2.32E-08 | 6.44E-11 | 9.86E-05 |
| trans-1,3-Dichloropropene | 5.0E-01 | 111 | 7.26E-01 | 4.64E-02 | 1.95E+03 | 4.64E-02 | 2.32E-08 | 6.44E-11 | 9.86E-05 |

**Equations**

Equation 1 $Kv = 1/(1/k_l + 1/K_H{*}K_g)$

Equation 2 $k_g = 700(18/MW)^{1/4}V$

Equation 3 $k_l = (32/MW)^{1/4}Ka'$

Equation 4 $ER = Kv * Cw * L/1000\ cm^3 * mg/1000\ \mu g$

Equation 5 $ERa = ER * g/1000\ mg * 10000 cm^2/m^2 * hr/60\ min * min/60\ sec$

| Variables | Units | Exposure Assumptions |
|---|---|---|
| Cw = groundwater concentration | (mg/L) | chem-specific |
| MW = molecular weight | (mol/gram) | chem-specific |
| $K_H$ - Henry's Law Constant | (unitless) | chem-specific |
| Kv = volatilization rate | (cm/hr) | Solved by Eq 1 |
| $k_g$ = gas phase transfer coefficient | (cm/hr) | Solved by Eq 2 |
| $k_l$ = liquid phase transfer coefficient | (cm/hr) | Solved by Eq 3 |
| V = wind speed | (m/s) | 4.4 |
| Ka' = aeration rate | (cm/hr) | 0.0633 |
| ER = emission rate | (mg/hr) | Solved by Eq 4 |
| A = area of excavation (utility ditch) Length = 18 m, width = 2 m | (m$^2$) | 36 |
| Era = area emission rate | (g/sec-m$^2$) | Solved by Eq 5 |
| Ca = air concentration | (mg/m$^3$) | Solved using SCREEN3 mode |

Note: aeration rate based on aeration rate for small pond (0.1/day) multiplied by depth of water in excavation (1/2 ft)

TABLE 7.14.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 5.6E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.9E-02 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 1.8E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.8E-03 |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.1E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.4E-06 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.1E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 4.1E-07 |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.5E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.5E-03 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.5E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.9E-06 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.7E-04 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.8E-02 |

TABLE 7.14.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 2.2E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.4E-04 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 8.0E-03 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 9.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 9.9E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.3E-03 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 9.9E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.3E-04 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 3.9E-06 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 4.9E-04 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.9E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.3E-02 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.15.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentratio Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 5.2E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.7E-01 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 1.6E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.5E-02 |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.8E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.8E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.8E-06 |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.0E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-02 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 7.0E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.3E-03 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.4E-03 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.6E-01 |
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 2.9E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 9.8E-04 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 8.0E-03 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.3E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.4E-03 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.3E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.4E-04 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 5.1E-06 |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 6.4E-04 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 6.4E-03 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.6E-01 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.16.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 8.5E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 2.6E-09 | mg/kg-day | 3.0E-05 | mg/kg-day | N/A | N/A | 8.8E-05 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 3.5E-07 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 2.0E-04 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.5E-06 | $mg/m^3$ | R | 6.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 4.4E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 4.4E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 2.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.9E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.9E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

**Table 7.16.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 1.62E-03 | 1.62E-03 | 1.61E-06 | 8.62E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.17.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 2.4E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 7.4E-09 | mg/kg-day | 3.0E-05 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 9.8E-07 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 3.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.5E-06 | $mg/m^3$ | R | 1.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.2E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.2E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 5.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.2E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.2E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

**Table 7.17.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 1.62E-03 | 1.62E-03 | 1.61E-06 | 8.62E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.18.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 1.3E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 5.2E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.7E-02 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 1.9E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.3E-03 |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.1E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.4E-06 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.1E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 4.1E-07 |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.1E-09 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.8E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-03 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.8E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.7E-06 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.4E-04 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.7E-02 |

TABLE 7.18.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 2.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 3.5E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.1E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 6.9E-03 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | NABS | | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.6E-09 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 9.0E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 9.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.0E-03 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 9.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.0E-04 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 3.6E-06 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 4.5E-04 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 8.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.1E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.7E-02 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) chronic.

TABLE 7.19.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 1.2E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.9E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 4.9E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.6E-01 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 1.8E-04 | mg/kg-day | 3.0E-03 | | | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.8E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.8E-08 | mg/kg-day | 1.0E-02 | | | | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.8E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.4E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.4E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.1E-02 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.4E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.1E-03 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.6E-05 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 4.6E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.6E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.9E-01 |

TABLE 7.19.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 1 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 2.9E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 4.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 2.7E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 9.1E-03 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | NABS | | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 1.0E-02 | mg/kg-day | N/A | N/A | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 2.2E-09 | mg/kg-day | N/A | | N/A | N/A | |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.0E-03 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.2E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 4.0E-04 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.8E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 4.8E-06 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.2E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.8E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 6.0E-04 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.8E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.4E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.0E-01 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Subchronic, if available, else chronic.

TABLE 7.19.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-09 | $mg/m^3$ | R | 6.1E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 3.9E-04 | $mg/m^3$ | R | 8.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.1E-09 | $mg/m^3$ | R | 2.4E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 2.2E-10 | mg/kg-day | 1.1E-06 | mg/kg-day | 4.0E-06 | $mg/m^3$ | 2.0E-04 |
| | Benzene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 8.4E-09 | mg/kg-day | 1.7E-02 | mg/kg-day | 6.0E-02 | $mg/m^3$ | 4.9E-07 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.5E-08 | $mg/m^3$ | R | 7.4E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.0E-01 | mg/kg | 1.5E-10 | $mg/m^3$ | R | 3.2E-12 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.0E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.0E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.20.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 7.0E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 2.9E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 9.5E-03 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 1.0E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.2E-04 |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 2.3E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.5E-07 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 2.3E-09 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.3E-08 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | | | | | | | | | | | N/A | N/A | |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.0E+00 | mg/kg-day | N/A | N/A | 1.5E-07 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.0E-02 |
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.6E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.6E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.6E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.6E-04 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | NABS | | 5.0E-04 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 3.0E-03 | mg/kg-day | N/A | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 1.0E-01 | mg/kg-day | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | | | N/A | | N/A | N/A | |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.0E-08 | mg/kg-day | 8.0E-01 | mg/kg-day | N/A | N/A | 5.0E-08 |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.2E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.0E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 7.6E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.1E-02 |

NABS - No absorption fraction available.
(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Subchronic, if available, else chronic.

TABLE 7.21.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-09 | $mg/m^3$ | R | 7.9E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 1.1E-05 | $mg/m^3$ | R | 2.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.1E-09 | $mg/m^3$ | R | 3.1E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 2.9E-09 | mg/kg-day | 3.0E-05 | mg/kg-day | N/A | N/A | 9.5E-05 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 3.5E-07 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 2.0E-04 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 1.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.0E-01 | mg/kg | 1.5E-10 | $mg/m^3$ | R | 4.1E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 6.9E-06 | $mg/m^3$ | R | 1.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 3.0E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.0E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

**Table 7.21.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_I$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 1.62E-03 | 1.62E-03 | 1.61E-06 | 8.62E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_I * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.22.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 1
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-09 | $mg/m^3$ | R | 2.2E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 1.1E-05 | $mg/m^3$ | R | 8.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.1E-09 | $mg/m^3$ | R | 8.7E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 8.0E-09 | mg/kg-day | 3.0E-05 | mg/kg-day | N/A | N/A | 2.7E-04 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 9.8E-07 | mg/kg-day | 1.7E-03 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 3.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.0E-01 | mg/kg | 1.5E-10 | $mg/m^3$ | R | 1.2E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 6.9E-06 | $mg/m^3$ | R | 5.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.4E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 8.4E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

**Table 7.22.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 1.62E-03 | 1.62E-03 | 1.61E-06 | 8.62E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.23.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-09 | $mg/m^3$ | R | 6.1E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 3.9E-04 | $mg/m^3$ | R | 8.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.1E-09 | $mg/m^3$ | R | 2.4E-11 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 2.2E-10 | mg/kg-day | 1.1E-06 | mg/kg-day | 4.0E-06 | $mg/m^3$ | 2.0E-04 |
| | Benzene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 8.4E-09 | mg/kg-day | 1.7E-02 | mg/kg-day | 6.0E-02 | $mg/m^3$ | 4.9E-07 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.5E-08 | $mg/m^3$ | R | 7.4E-10 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Acetophenone | 2.0E-01 | mg/kg | 1.5E-10 | $mg/m^3$ | R | 3.2E-12 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 2.0E-04 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 2.0E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

Table 7.23.RME.UA Supplement
Calculations of Volatilization Factor and Soil Saturation Concentrations
*MCAS Cherry Point, OU5 Site 2*

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E-03 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.36E-02 | 1.67E-01 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+03 | 1.90E-03 | 2.51E+03 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**l Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 7.24.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 3.5E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-01 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 4.3E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.4E-02 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.6E-04 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.8E-05 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.6E-05 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 9.2E-06 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-04 |
| | Carbon Tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 3.3E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.1E-04 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-04 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.6E-04 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.6E-05 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.6E-05 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 5.7E-03 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.6E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.6E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.5E-01 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.6E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 4.6E-01 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.6E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.5E-02 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.9E-03 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.4E-02 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 5.7E-02 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.1E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.8E-04 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.7E-04 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.7E-01 |

TABLE 7.24.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 8.7E-09 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.9E-05 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 2.1E-08 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 2.8E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.9E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.3E-06 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.6E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.6E-07 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.00E-01 | µg/L | 5.00E-01 | µg/L | M | 6.7E-09 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 1.1E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-09 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.3E-06 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-09 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.0E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.0E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.0E-08 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 2.6E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.4E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.2E-07 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 2.1E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-09 | mg/kg-day | 1.6E-02 | mg/kg-day | N/A | N/A | 2.0E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.2E-06 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.3E-09 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.1E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.5E-07 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-08 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 8.3E-06 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-08 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.1E-05 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.6E-05 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.6E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-04 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.2E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 2.2E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.7E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-05 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.1E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.9E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.1E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 8.3E-05 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.5E-03 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.6E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 4.3E-03 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.1E-06 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.0E-06 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 2.6E-04 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.8E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.4E-05 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.9E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.0E-02 |
| | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | | 8.8E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.24.A.RME.UA Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 2.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 3.8E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 5.1E-02 | 2.6 | 8.4E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 1.0E-02 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

Table 7.24.RME.UA Supplement B
Calculation of DAevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 7.25.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.4E-01 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 2.0E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.6E-02 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.6E-03 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.6E-04 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.3E-05 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.3E-04 |
| | Carbon Tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 1.5E-02 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 5.3E-04 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.6E-03 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.6E-04 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.6E-04 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 2.7E-02 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 5.3E-02 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.25.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 7.1E-01 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-04 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 2.1E+00 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.1E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.1E-02 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 6.7E-02 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 2.7E-01 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 5.3E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-03 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.0E+00 |
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.4E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.6E-05 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 3.4E-08 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 4.5E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.2E-06 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.9E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 8.9E-07 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.00E-01 | µg/L | 5.00E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 1.8E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.5E-09 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.1E-06 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.0E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.9E-09 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.6E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.7E-08 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 4.1E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.0E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.5E-07 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 3.3E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.6E-02 | mg/kg-day | N/A | N/A | 3.2E-07 |
| | Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.0E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.0E-06 |

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REASONABLE MAXIMUM EXPOSURE
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Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.0E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.0E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-09 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 8.8E-07 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.6E-08 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-08 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.8E-05 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.3E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.1E-05 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.8E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.5E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 3.5E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.8E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.9E-05 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.1E-07 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.2E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 4.0E-06 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-06 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 6.8E-03 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.0E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 4.0E-04 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.9E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.5E-06 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 4.1E-04 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 8.6E-05 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.2E-02 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 4.1E+00 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.25.A.RME.UA Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropan | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 2.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 3.8E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 5.1E-02 | 2.6 | 8.4E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 1.0E-02 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 7.26.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 7.4E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.5E-03 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 5.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.5E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-06 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.5E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.5E-07 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-04 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 1.5E-06 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.9E-04 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.9E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.3E-05 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.9E-03 |

TABLE 7.26.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 4.3E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.4E-10 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.1E-07 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 2.0E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.0E-07 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 4.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 4.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 2.0E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.4E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.4E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.5E-03 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.4E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.9E-06 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.6E-04 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.9E-06 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 8.1E-05 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.6E-03 |

Total Hazard Index Across All Exposure Routes/Pathways 1.1E-02

NABS - No absorption fraction available.
(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.27.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 6.9E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.3E-02 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 5.1E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.7E-02 |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.3E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.1E-05 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.3E-06 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 3.3E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.2E-03 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.7E-03 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.6E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.2E-04 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.5E-02 |

TABLE 7.27.RME.UA
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 8.9E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.0E-01 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 7.0E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.3E-05 |
| | cis-1,2-Dichloroethene | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 4.2E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 4.2E-05 |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 7.8E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 7.8E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 8.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 8.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 2.0E-02 | mg/kg | 2.0E-02 | mg/kg | M | 4.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.5E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.5E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.2E-01 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.5E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.2E-02 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.0E-05 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 6.0E-04 |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 7.8E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 7.8E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.0E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 7.5E-02 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 7.8E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.9E-04 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 1.7E-02 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.0E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 9.6E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.0E+00 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 7.28.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 1.0E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.5E-04 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 2.4E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.1E-03 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 1.4E-05 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.1E-05 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.1E-05 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 5.9E-04 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 1.2E-03 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 8.2E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.1E-05 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 8.2E-05 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.7E-04 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.7E-05 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 8.5E-03 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 4.2E-03 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 8.5E-04 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |

TABLE 7.28.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.7E-02 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.7E-01 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 8.5E-04 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 5.7E-03 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 5.3E-03 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 2.1E-02 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 4.2E-03 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 8.5E-03 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.4E-04 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.1E-04 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 3.0E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 3.0E-01 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

TABLE 7.29.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.2E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.1E-03 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 7.7E-04 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 3.9E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 3.9E-04 |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 5.4E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.8E-02 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.1E-05 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 4.6E-04 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 6.1E-05 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 6.1E-05 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 6.1E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.2E-05 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.2E-05 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 1.3E-03 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 2.6E-03 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.2E-05 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.1E-04 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 6.1E-05 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 6.1E-05 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.9E-02 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 9.4E-03 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.9E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.3E-01 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 3.8E-01 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.9E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.3E-02 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 2.4E-03 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 4.7E-02 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 9.4E-03 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.7E-04 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 1.9E-02 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.1E-04 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 4.7E-04 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 5.7E-01 |

TABLE 7.29.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.4E-05 |
| | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 6.1E-04 |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 2.4E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 8.1E-05 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 2.4E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.4E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.6E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.6E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-07 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 3.5E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.4E-05 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.1E-06 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 5.5E-05 |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 3.8E-05 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.7E-06 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 9.1E-06 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-08 | mg/kg-day | 1.4E-03 | mg/kg-day | N/A | N/A | 2.9E-05 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.4E-07 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 6.3E-04 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.2E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.0E-06 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 1.1E-04 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.2E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.1E-05 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.4E-06 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.3E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 2.4E-06 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.7E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.2E-06 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.1E-03 |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 3.8E-04 |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.6E-07 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 1.7E-04 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.9E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.2E-03 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.3E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 6.3E-03 |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 5.0E-03 | mg/kg-day | N/A | N/A | 2.3E-05 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 6.8E-05 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.0E-05 | mg/kg-day | N/A | | N/A | N/A | |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-03 | mg/kg-day | N/A | | N/A | N/A | |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 3.3E-03 |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-04 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.5E-01 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.7E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 2.4E-01 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.4E-04 | mg/kg-day | N/A | | N/A | N/A | |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.3E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-04 |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.2E-07 | mg/kg-day | 5.0E-04 | mg/kg-day | N/A | N/A | 1.0E-03 |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-04 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 1.6E-02 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.7E-08 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.1E-06 | mg/kg-day | N/A | | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.6E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.3E-03 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.2E-07 | mg/kg-day | N/A | | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 4.4E-01 |
| | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | | | 1.1E+00 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.

Table 7.29.CT.UA Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm$^2$-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 2.5E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 1.7E-09 | 1 |
| Benzene | 6.3E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 8.9E-09 | 2 |
| cis-1,2-Dichloroethene | 1.1E+00 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 0.33 | 8.8E-09 | 2 |
| Arsenic | 1.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 4.8E-10 | 1 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 4.5E-09 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.6E-08 | 2 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.2E-07 | 2 |
| 2,4-Dinitrotoluene | 1.0E+01 | 3.0E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 0.33 | 8.0E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.4E-08 | 2 |
| 2-Chlorophenol | 2.6E+00 | 8.0E-03 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 3.1E-08 | 2 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 3.9E-08 | 2 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.5E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.2E-07 | 3.2E+00 | 5.1E-02 | 0.33 | 3.0E-08 | 2 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 3.9E-07 | 1.0E+00 | 2.0E-02 | 0.33 | 4.1E-09 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 2.7E-07 | 1.5E+00 | 1.0E-02 | 0.33 | 7.5E-09 | 2 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 6.1E-08 | 1.2E+01 | 4.0E+00 | 0.33 | 1.1E-07 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 4.9E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 4.7E-07 | 2 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 4.4E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 1.7E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 4.4E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 0.33 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 1.9E-07 | 2 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 1.9E-08 | 2 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.3E-05 | 2 |
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 1.7E-07 | 2.4E+00 | 5.8E-03 | 0.33 | 9.7E-10 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 0.33 | 7.8E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 0.33 | 2.4E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 0.33 | 8.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =

Table 7.29.CT.UA Supplement B
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 7.30.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 9.3E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.1E-02 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 5.0E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.7E-03 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.5E-04 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 9.1E-05 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.2E-05 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 5.5E-04 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-04 |
| | Carbon Tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 7.8E-03 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 2.7E-04 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 5.5E-04 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-06 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 1.4E-02 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 2.7E-02 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-04 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-04 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 3.6E-01 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-04 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.1E+00 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-04 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.6E-02 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 6.8E-03 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 3.4E-02 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 1.4E-01 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 2.7E-02 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 9.1E-04 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.4E-03 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.8E+00 |

TABLE 7.30.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 6.2E-09 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 2.1E-05 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 1.5E-08 | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | 2.0E-04 |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.1E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.4E-06 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 4.0E-07 |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.6E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.8E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.00E-01 | µg/L | 5.00E-01 | µg/L | M | 4.8E-09 | mg/kg-day | 6.0E-02 | mg/kg-day | N/A | N/A | 8.0E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-09 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 9.5E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-09 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.4E-08 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.3E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 7.4E-09 | mg/kg-day | 4.0E-02 | mg/kg-day | N/A | N/A | 1.9E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-09 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.6E-07 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.0E-08 | mg/kg-day | 7.0E-04 | mg/kg-day | N/A | N/A | 1.5E-05 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-09 | mg/kg-day | 1.6E-02 | mg/kg-day | N/A | N/A | 1.4E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 2.3E-06 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 9.0E-07 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-09 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 7.9E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 4.0E-07 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-08 | mg/kg-day | 2.0E-03 | mg/kg-day | N/A | N/A | 5.9E-06 |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.0E-09 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 8.0E-06 |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.7E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 1.9E-05 |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.9E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.7E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.6E-08 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.6E-05 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-07 | mg/kg-day | 1.0E-04 | mg/kg-day | N/A | N/A | 1.6E-03 |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.6E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 8.8E-06 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.5E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.0E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.7E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-07 | mg/kg-day | 4.0E-03 | mg/kg-day | N/A | N/A | 5.9E-05 |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.8E-03 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.1E-07 | mg/kg-day | 2.0E-04 | mg/kg-day | N/A | N/A | 3.1E-03 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-07 | mg/kg-day | 1.0E-03 | mg/kg-day | N/A | N/A | 1.8E-04 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 6.5E-06 |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-06 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 1.9E-04 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.6E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.7E-07 | mg/kg-day | 2.0E-02 | mg/kg-day | N/A | N/A | 3.9E-05 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.3E-09 | mg/kg-day | N/A | mg/kg-day | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 7.3E-03 |
| | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | | | 1.8E+00 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Chronic.
(3) RfD for napthalene used as surrogate RfD for acenaphthylene.

Table 7.30.A.CT.UA Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B dimensionless | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 8.5E-01 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.2E-09 | 1 |
| Chromium | 4.5E-01 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.4E-09 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 2.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 3.8E-08 | 3 |
| trans-1,3-Dichloropropene | 2.5E+00 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 3.8E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 5.1E-02 | 2.6 | 8.4E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 1.0E-02 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm³ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm³ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 7.31.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 4.0E-03 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | 6.1E-06 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 2.0E-03 |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 4.5E-09 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.5E-06 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 4.5E-09 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 4.5E-07 |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.8E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 4.5E-09 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 5.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 5.0E-07 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 1.7E-03 |
| | 4-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 5.0E-07 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 1.7E-04 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 2.0E-06 |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 2.5E-04 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 5.0E-07 | mg/kg-day | 3.0E-02 | mg/kg-day | N/A | N/A | 1.7E-05 |
| | bis(2-Chloroethyl)ether | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 8.2E-03 |

TABLE 7.31.CT.UA
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Hazard Calculation (1) | Intake (Non-Cancer) | Intake (Non-Cancer) Units | Reference Dose (2) | Reference Dose Units | Reference Concentration | Reference Concentration Units | Hazard Quotient |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.7E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 5.7E-02 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | NABS | mg/kg-day | 7.5E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 1.1E-08 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 3.5E-06 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.4E-08 | mg/kg-day | 1.0E-02 | mg/kg-day | N/A | N/A | 6.4E-06 |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.3E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.4E-08 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.4E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | 3-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.4E-05 | mg/kg-day | 3.0E-04 | mg/kg-day | N/A | N/A | 8.0E-02 |
| | 4-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.4E-05 | mg/kg-day | 3.0E-03 | mg/kg-day | N/A | N/A | 8.0E-03 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-06 | mg/kg-day | 1.0E-01 | mg/kg-day | N/A | N/A | 9.5E-05 |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Hexachlorobenzene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-06 | mg/kg-day | 8.0E-04 | mg/kg-day | N/A | N/A | 1.2E-02 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-05 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | Pentachlorophenol | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 6.0E-05 | mg/kg-day | 2.3E-02 | mg/kg-day | N/A | N/A | 2.6E-03 |
| | bis(2-Chloroethyl)ether | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | n-Nitroso-di-n-propylamine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-06 | mg/kg-day | N/A | N/A | N/A | N/A | |
| | (Total) | | | | | | | | | | | | 1.6E-01 |
| | | | | | | | | | | | | Total Hazard Index Across All Exposure Routes/Pathways | 1.7E-01 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Chronic.

TABLE 8.1.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 1.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 4.5E-06 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.0E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.8E-11 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.0E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.5E-07 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.5E-09 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.5E-07 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.3E-08 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.3E-07 |
| | (Total) | | | | | | | | | | 4.2E-06 |

TABLE 8.1.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 7.3E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 3.3E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 3.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.5E-09 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 3.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.5E-09 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.9E-07 |
| | (Total) | | | | | | | | | | 5.1E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.3E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.2.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 1.6E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 5.0E-07 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.2E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 6.5E-12 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.2E-10 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.1E-08 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.1E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.1E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 6.1E-11 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.1E-09 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 6.1E-10 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.1E-08 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 9.3E-09 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.4E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | (Total) | | | | | | | | | | 4.7E-07 |

TABLE 8.2.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 2.4E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 4.0E-11 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.0E-10 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.3E-09 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.3E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.8E-09 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.3E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.3E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.0E-08 |
| | (Total) | | | | | | | | | | 1.7E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.4E-07 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.3.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 7.2E-11 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.1E-09 |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 2.3E-10 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 9.2E-09 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 8.6E-10 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 9.1E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 2.4E-10 | mg/kg-day | 3.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 7.4E-10 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 5.4E-08 | $mg/m^3$ | R | 1.3E-09 | mg/kg-day | N/A | | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 3.8E-12 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 1.7E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.9E-07 |
| | (Total) | | | | | | | | | | 2.0E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.0E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.3.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.3.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 2.0E-12 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.0E-11 |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 6.3E-12 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.6E-10 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 8.3E-10 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.4E-11 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 2.6E-10 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 6.7E-12 | mg/kg-day | 3.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.1E-11 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 5.4E-08 | $mg/m^3$ | R | 3.5E-11 | mg/kg-day | N/A | | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.1E-13 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 4.8E-09 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.3E-09 |
| | (Total) | | | | | | | | | | 5.7E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.7E-09 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.4.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
*MCAS Cherry Point, OU5 Site 2*

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.5.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 1.6E-07 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.6E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 7.6E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.4E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 7.0E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.4E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 6.0E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.6E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.1E-09 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.7E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.3E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.9E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.0E-09 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.6E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.9E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | (Total) | | | | | | | | | | 1.4E-06 |

TABLE 8.5.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 7.6E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 1.9E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.1E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 8.4E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.7E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.3E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.0E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 7.7E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.8E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.0E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 9.5E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.0E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.9E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.7E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.9E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.7E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.5E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.5E-07 | mg/kg-day | 2.0E-02 | N/A | |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.2E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.6E-07 | mg/kg-day | 2.0E-02 | N/A | 5.1E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.6E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.0E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.2E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.8E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.9E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | (Total) | | | | | | | | | | 7.7E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.7E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.5.RME.UA Supplement
Calculation of Daevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 8 | 6.1E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 8 | 1.5E-07 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 8 | 5.9E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 8 | 3.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 8 | 2.6E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 8 | 2.7E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 8 | 3.4E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 8 | 2.9E-08 | 3 |
| 1,1-Dichloroethene | #REF! | 1.2E-02 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 1.3E-02 | 8 | #REF! | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 8 | 2.5E-08 | 3 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 8 | 1.1E-08 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 8 | 1.8E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 8 | 3.5E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 8 | 6.1E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 8 | 2.2E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 8 | 7.2E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 8 | 1.4E-08 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 8 | 1.5E-07 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 8 | 2.3E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 8 | 1.9E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 8 | 1.9E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 8 | 8.7E-07 | 3 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 8 | 7.9E-08 | 3 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 8 | 5.4E-08 | 3 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 8 | 2.3E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 8 | 2.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 8 | 4.4E-07 | 3 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 8 | 2.0E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 8 | 9.8E-07 | 3 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 8 | 2.0E-07 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 8 | 2.0E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.3E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 8 | 2.4E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 8 | 1.3E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 8 | 4.9E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 8 | 1.4E-06 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 8 | 5.4E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 8 | 2.6E-06 | 3 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 8 | 9.1E-07 | 3 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 8 | 3.1E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 8 | 9.4E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 8 | 1.5E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 8 | 4.2E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 8 | 2.7E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 8 | 4.9E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm² (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm² (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.5.RME.UA Supplement B
Calculation of DAevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.6.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 7.7E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 1.2E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 9.5E-08 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 2.8E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.9E-07 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.9E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 1.0E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 2.9E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 7.1E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 4.3E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 4.6E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 3.5E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 3.2E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 6.6E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 4.3E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 2.6E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 3.7E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 5.1E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.1E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 5.1E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 2.8E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.0E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 1.1E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 2.0E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.0E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 2.0E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.9E-08 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 1.9E-09 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 1.9E-10 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.9E-07 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 4.1E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 2.0E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.6E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.9E-08 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 3.1E-09 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 2.8E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.6E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | (Total) | | | | | | | | | | 8.3E-07 |

TABLE 8.6,RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 4.3E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 1.0E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.8E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 2.7E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.8E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.2E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 3.8E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.9E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.3E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 6.6E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 1.5E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 4.4E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 9.3E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 1.4E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.9E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 2.0E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 5.1E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.2E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.0E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 9.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 8.0E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.0E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 3.6E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.1E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.1E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.1E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.1E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.0E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 1.1E-08 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.1E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.5E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.0E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 2.7E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 3.5E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 3.6E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.8E-05 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.8E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 3.5E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.0E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 7.6E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.9E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.6E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 3.3E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.7E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.5E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 4.8E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.9E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.9E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 3.5E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.8E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 4.2E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.3E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 7.4E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 3.0E-07 |
| | (Total) | | | | | | | | | | 1.3E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.3E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.6A RME.UA Supplement
Calculation of Daevent
Trespasser/Visitor, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 8 | 2.3E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 8 | 1.9E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 8 | 1.9E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I; (Part E) EPA540/R/99/005.
N/A - not available or not applicable.
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I; (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 8.7.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 8.8E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 6.5E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.6E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.5E-11 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.6E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.9E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.9E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.4E-09 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.6E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.9E-10 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.0E-10 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.5E-09 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | (Total) | | | | | | | | | | 6.2E-07 |

TABLE 8.7.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 4.5E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.7E-08 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 3.9E-11 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.2E-12 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 2.3E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 4.2E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.0E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 4.2E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.0E-09 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 2.3E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-10 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.3E-10 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.8E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 7.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.0E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | | | | | | | | | | | 1.1E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.7E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.8.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 1.6E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 1.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 8.6E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.7E-11 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 8.6E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.5E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.5E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.6E-09 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 8.6E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.3E-10 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 8.6E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 8.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 8.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 5.3E-08 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 8.6E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | (Total) | | | | | | | | | | 1.2E-06 |

TABLE 8.8.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut snd Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 3.0E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 2.6E-11 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.4E-12 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 1.6E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 1.6E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.3E-10 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 5.2E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 9.1E-09 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 5.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 5.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.2E-08 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | | | | | | | | | | | 7.1E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.9E-06 |

NABS - No absorption fraction available.

Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.9.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 5.9E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 1.0E-05 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 9.4E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 6.6E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.0E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.2E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 6.1E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 3.4E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.7E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.7E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |

TABLE 8.9.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.9E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.9E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.7E-05 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.7E-04 |
| | (Total) | | | | | | | | | | 7.0E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.0E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.10.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 3.5E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 1.9E-07 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 5.8E-06 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 8.0E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 1.2E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.0E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.0E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 5.5E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 1.6E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 3.8E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 2.3E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 2.5E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 1.9E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day)$^{-1}$ | 6.6E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day)$^{-1}$ | 2.2E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 3.6E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 2.3E-07 |
| | Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 1.4E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 3.8E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 2.7E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 2.7E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 1.5E-07 |
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 6.3E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.1E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.1E-06 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.0E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 1.0E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 1.0E-07 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.0E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 2.3E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 1.1E-06 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 2.0E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.0E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 1.7E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 1.5E-05 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 2.0E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 9.8E-05 |
| | (Total) | | | | | | | | | | 4.1E-04 |

TABLE 8.10.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 2.7E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 4.0E-06 |
| | Chromium | 2.5E+00 | mg/kg | 2.5E+00 | mg/kg | M | 9.1E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | mg/kg | 6.3E-01 | mg/kg | M | 4.9E-07 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 2.7E-08 |
| | cis-1,2-Dichloroethene | 1.1E+00 | mg/kg | 1.1E+00 | mg/kg | M | 4.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.3E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 9.5E-03 |
| | Benzo(b)fluoranthene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.4E-03 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 9.9E-04 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 4.2E-07 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 8.4E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 1.5E-08 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 7.5E-07 |
| | 1,2-Dibromoethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 1.3E-07 |
| | 1,2-Dichloroethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 1.1E-08 |
| | 1,2-Dichloropropane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 1.8E-08 |
| | 1,3-Dichlorobenzene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 3.3E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.3E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day)$^{-1}$ | 5.4E-08 |
| | Bromodichloromethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 1.6E-08 |
| | Bromoform | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 3.6E-07 | mg/kg-day | 7.9E-03 | (mg/kg-day)$^{-1}$ | 2.9E-09 |
| | Bromomethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 8.1E-08 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 8.8E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 1.1E-07 |
| | Chloroform | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | N/A | | |
| | Dibromochloromethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 2.0E-08 |
| | Tetrachloroethene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.2E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 1.2E-07 |
| | Vinyl chloride | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | cis-1,3-Dichloropropene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.5E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.5E-08 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.6E-07 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.7E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 1.9E-07 |
| | 2,4-Dinitrophenol | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 7.6E-07 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.7E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 2.1E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.2E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 5.3E-06 |
| | 3-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 1.9E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 3.8E-08 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 1.7E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 2.0E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 4.0E-08 |
| | Benzo(a)anthracene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 6.2E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 4.5E-04 |
| | Benzo(k)fluoranthene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.2E-03 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 8.9E-05 |
| | Chrysene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 6.2E-04 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 4.5E-06 |
| | Dibenz(a,h)anthracene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.7E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.9E-02 |
| | Dibenzofuran | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.6E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.4E-04 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 3.8E-04 |
| | Hexachlorobutadiene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 9.4E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 7.3E-06 |
| | Hexachloroethane | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.4E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.7E-03 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.2E-03 |
| | Naphthalene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.1E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.0E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 7.4E-04 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 8.8E-05 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.7E-07 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.3E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 4.7E-06 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.1E-04 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.5E-06 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 3.1E-06 |
| | (Total) | | | | | | | | | | 3.2E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways: 3.3E-02

One-hit equation used for calculating risks for benzo(a)pyrene and dibenz(a,h)anthracene.

Table 8.10.RME.UA Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 2.5E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 1.7E-09 | 1 |
| Benzene | 6.3E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 8.9E-09 | 2 |
| cis-1,2-Dichloroethene | 1.1E+00 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 0.33 | 8.8E-09 | 2 |
| Arsenic | 1.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 4.8E-10 | 1 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 4.5E-09 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.6E-08 | 2 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.2E-07 | 2 |
| 2,4-Dinitrotoluene | 1.0E+01 | 3.0E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 0.33 | 8.0E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.4E-08 | 2 |
| 2-Chlorophenol | 2.6E+00 | 8.0E-03 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 3.1E-08 | 2 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 3.9E-08 | 2 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.5E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 0.33 | 3.1E-07 | 2 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 0.33 | 1.5E-08 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 0.33 | 3.6E-08 | 2 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 0.33 | 2.2E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 4.9E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 4.7E-07 | 2 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 4.4E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 1.7E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 4.4E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 0.33 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 1.9E-07 | 2 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 1.9E-08 | 2 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.3E-05 | 2 |
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 0.33 | 6.8E-09 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 0.33 | 7.8E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 9.5E-03 | 0.33 | 2.1E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 0.0E+00 | 0.33 | 8.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.10.RME.UA Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | $t^*$[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.11.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 9.4E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 1.6E-05 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 2.2E-05 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.3E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.8E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.3E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 6.8E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 4.6E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 9.7E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | N/A | N/A | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 6.3E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.5E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 7.5E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.2E-07 |

TABLE 8.11.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-04 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-04 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.7E-05 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-04 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.1E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-04 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-04 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.1E-06 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.8E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.8E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.1E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.0E-06 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 4.6E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.2E-05 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.7E-04 |
| | (Total) | | | | | | | | | | 1.1E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.1E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.12.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.4E-09 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 1.0E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 9.6E-09 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 1.6E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.6E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.6E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.5E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 9.0E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.9E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.4E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.5E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-09 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 1.6E-11 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-09 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.6E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.1E-09 | mg/kg-day | N/A | | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.9E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-08 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |

TABLE 8.12.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,4-Dinitrophenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.4E-09 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.0E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.7E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.3E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Chysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.8E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.0E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.5E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.6E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.8E-08 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.3E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.2E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.6E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.1E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.9E-09 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 5.8E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 6.4E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.3E-09 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.8E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | (Total) | | | | | | | | | | 8.5E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.5E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.12.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OUS Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Chromium | 2.5E+00 | ug/L | 2.5E+00 | ug/L | M | 5.4E-09 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | ug/L | 6.3E-01 | ug/L | M | 1.0E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 5.5E-10 |
| | cis-1,2-Dichloroethene | 1.1E+00 | ug/L | 1.1E+00 | ug/L | M | 9.8E-09 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | ug/L | 1.5E+00 | ug/L | M | 1.6E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 2.4E-08 |
| | Benzo(a)pyrene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 3.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 2.6E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 3.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 2.7E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 4.5E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 9.0E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 3.9E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 2.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 3.4E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 4.7E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 1.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 2.5E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 2.2E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 4.6E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 3.1E-10 |
| | 1,3-Dichlorobenzene | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 2.4E-08 | mg/kg-day | 2.4E-02 | (mg/kg-day)$^{-1}$ | 5.7E-10 |
| | Bromodichloromethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 3.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 1.8E-10 |
| | Bromoform | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 2.0E-09 | mg/kg-day | 7.9E-03 | (mg/kg-day)$^{-1}$ | 1.6E-11 |
| | Bromomethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 1.6E-09 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 9.8E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | Chloroform | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 4.1E-09 | mg/kg-day | N/A | | |
| | Dibromochloromethane | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 1.9E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 1.6E-10 |
| | Tetrachloroethene | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 2.0E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 1.0E-09 |
| | Vinyl chloride | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 3.2E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 2.2E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 2.6E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | ug/L | 5.0E-01 | ug/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 2.6E-10 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.6E-08 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.2E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | 2,4-Dinitrophenol | 1.0E+01 | ug/L | 1.0E+01 | ug/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 7.4E-09 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | ug/L | 1.0E+01 | ug/L | M | 3.0E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 6.0E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 2.7E-09 |
| | 3-Nitroaniline | 1.0E+01 | ug/L | 1.0E+01 | ug/L | M | 2.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 5.5E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | ug/L | 1.0E+01 | ug/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.5E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | ug/L | 1.0E+01 | ug/L | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 5.6E-10 |
| | Benzo(a)anthracene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.3E-08 |
| | Benzo(k)fluoranthene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 3.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 2.4E-07 |
| | Chrysene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.8E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 1.3E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 6.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 5.0E-08 |
| | Dibenzofuran | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 7.5E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.2E-06 |
| | Hexachlorobutadiene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 3.5E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 2.8E-08 |
| | Hexachloroethane | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.2E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.7E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 4.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.2E-08 |
| | Naphthalene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 1.6E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 2.1E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 2.5E-07 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 3.9E-09 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 5.8E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 3.8E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 5.3E-09 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | ug/L | 2.6E+00 | ug/L | M | 6.8E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 4.7E-08 |
| | (Total) | | | | | | | | | | 8.5E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.5E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.12.RME.UA Supplement B
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.13.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: Shower
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 5.9E-06 | mg/kg-day | 2.9E-02 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 1.0E-05 | mg/kg-day | N/A | N/A | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 9.4E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.6E-02 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.4E-03 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 7.6E-01 | (mg/kg-day) $^{-1}$ | 3.6E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 2.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 3.9E-03 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 5.3E-02 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 8.1E-02 | (mg/kg-day) $^{-1}$ | 3.8E-07 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | N/A | N/A | |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.5E-02 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-06 | mg/kg-day | 1.0E-02 | (mg/kg-day) -1 | 4.7E-08 |
| | (Total) | | | | | | | | | | 6.3E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.3E-06 |

TABLE 8.14.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Water Vapors at Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Benzene | 6.3E-01 | µg/L | 1.4E-04 | $mg/m^3$ | R | 4.1E-08 | mg/kg-day | 2.9E-02 | (mg/kg-day) -1 | 1.2E-09 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 2.2E-04 | $mg/m^3$ | R | 6.6E-08 | mg/kg-day | N/A | | |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 8.9E-05 | $mg/m^3$ | R | 2.7E-08 | mg/kg-day | 2.0E-01 | $(mg/kg\text{-}day)^{-1}$ | 5.4E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 9.4E-05 | $mg/m^3$ | R | 2.9E-08 | mg/kg-day | 5.6E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.6E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 7.4E-05 | $mg/m^3$ | R | 2.3E-08 | mg/kg-day | 2.4E-03 | $(mg/kg\text{-}day)^{-1}$ | 5.4E-11 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 8.6E-05 | $mg/m^3$ | R | 2.6E-08 | mg/kg-day | 7.6E-01 | $(mg/kg\text{-}day)^{-1}$ | 2.0E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 1.0E-04 | $mg/m^3$ | R | 3.1E-08 | mg/kg-day | 9.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.8E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 9.8E-05 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | N/A | N/A | |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 9.2E-05 | $mg/m^3$ | R | 2.8E-08 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 9.2E-05 | $mg/m^3$ | R | 2.8E-08 | mg/kg-day | 2.2E-02 | $(mg/kg\text{-}day)^{-1}$ | 6.1E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 8.9E-05 | $mg/m^3$ | R | 2.7E-08 | mg/kg-day | N/A | N/A | |
| | Bromoform | 5.0E-01 | | 5.2E-03 | $mg/m^3$ | R | 1.6E-06 | mg/kg-day | 3.9E-03 | $(mg/kg\text{-}day)^{-1}$ | 6.2E-09 |
| | Bromomethane | 5.0E-01 | µg/L | 1.0E-04 | $mg/m^3$ | R | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 9.1E-05 | $mg/m^3$ | R | 2.8E-08 | mg/kg-day | 5.3E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.5E-09 |
| | Chloroform | 5.0E-01 | µg/L | 9.7E-05 | $mg/m^3$ | R | 2.9E-08 | mg/kg-day | 8.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.4E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 8.4E-05 | $mg/m^3$ | R | 2.6E-08 | mg/kg-day | N/A | N/A | |
| | Tetrachloroethene | 5.0E-01 | µg/L | 8.9E-05 | $mg/m^3$ | R | 2.7E-08 | mg/kg-day | 1.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.7E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 1.1E-04 | $mg/m^3$ | R | 3.5E-08 | mg/kg-day | 1.5E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.2E-10 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 9.9E-05 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | 1.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.0E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 9.9E-05 | $mg/m^3$ | R | 3.0E-08 | mg/kg-day | 1.0E-02 | (mg/kg-day) -1 | 3.0E-10 |
| | (Total) | | | | | | | | | | 4.3E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.3E-08 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.14.RME.UA Supplement**
**Inhalation of Volatiles from Groundwater During Construction**
**Inhalation Exposure Concentrations Calculated Using a Two-Film Volatilization Model**
**Future Construction Worker Senario**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Cw (µg/L) | MW (mol/gram) | $K_H$ (unitless) | $k_l$ (cm/hr) | $k_g$ (cm/hr) | $K_v$ (cm/hr) | ER (mg/hr) | ERa (g/sec-m$^2$) | Ca (µg/m$^3$) |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 6.3E-01 | 78.11 | 2.28E-01 | 5.06E-02 | 2.13E+03 | 5.06E-02 | 3.19E-08 | 8.86E-11 | 1.36E-04 |
| cis-1,2-Dichloroethene | 1.1E+00 | 97 | 1.67E-01 | 4.80E-02 | 2.02E+03 | 4.80E-02 | 5.12E-08 | 1.42E-10 | 2.17E-04 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 168 | 1.41E-02 | 4.18E-02 | 1.76E+03 | 4.17E-02 | 2.09E-08 | 5.80E-11 | 8.87E-05 |
| 1,1,2-Trichloroethane | 5.0E-01 | 133 | 3.74E-02 | 4.43E-02 | 1.87E+03 | 4.43E-02 | 2.22E-08 | 6.15E-11 | 9.41E-05 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 236 | 2.49E-04 | 3.84E-02 | 1.62E+03 | 3.51E-02 | 1.75E-08 | 4.87E-11 | 7.45E-05 |
| 1,2-Dibromoethane | 5.0E-01 | 190 | 1.33E-02 | 4.06E-02 | 1.71E+03 | 4.05E-02 | 2.02E-08 | 5.62E-11 | 8.60E-05 |
| 1,2-Dichloroethane | 5.0E-01 | 99 | 4.10E-02 | 4.77E-02 | 2.01E+03 | 4.77E-02 | 2.39E-08 | 6.63E-11 | 1.01E-04 |
| 1,2-Dichloropropane | 5.0E-01 | 113 | 1.15E-01 | 4.62E-02 | 1.95E+03 | 4.62E-02 | 2.31E-08 | 6.41E-11 | 9.81E-05 |
| 1,3-Dichlorobenzene | 5.0E-01 | 147 | 9.96E-02 | 4.32E-02 | 1.82E+03 | 4.32E-02 | 2.16E-08 | 6.00E-11 | 9.19E-05 |
| 1,4-Dichlorobenzene | 5.0E-01 | 147 | 9.96E-02 | 4.32E-02 | 1.82E+03 | 4.32E-02 | 2.16E-08 | 6.00E-11 | 9.19E-05 |
| Bromodichloromethane | 5.0E-01 | 164 | 6.56E-02 | 4.21E-02 | 1.77E+03 | 4.21E-02 | 2.10E-08 | 5.84E-11 | 8.94E-05 |
| Bromoform | 5.0E-01 | 252.8 | 2.19E-02 | 2.62E+00 | 1.59E+03 | 2.44E+00 | 1.22E-06 | 3.39E-09 | 5.19E-03 |
| Bromomethane | 5.0E-01 | 95 | 6.20E-03 | 4.82E-02 | 2.03E+03 | 4.80E-02 | 2.40E-08 | 6.67E-11 | 1.02E-04 |
| Carbon tetrachloride | 5.0E-01 | 154 | 1.25E+00 | 4.27E-02 | 1.80E+03 | 4.27E-02 | 2.14E-08 | 5.94E-11 | 9.08E-05 |
| Chloroform | 5.0E-01 | 119 | 1.50E-01 | 4.56E-02 | 1.92E+03 | 4.56E-02 | 2.28E-08 | 6.33E-11 | 9.68E-05 |
| Dibromochloromethane | 5.0E-01 | 208 | 3.21E-02 | 3.96E-02 | 1.67E+03 | 3.96E-02 | 1.98E-08 | 5.50E-11 | 8.42E-05 |
| Tetrachloroethene | 5.0E-01 | 166 | 7.54E-01 | 4.19E-02 | 1.77E+03 | 4.19E-02 | 2.10E-08 | 5.83E-11 | 8.91E-05 |
| Vinyl chloride | 5.0E-01 | 63 | 1.11E+00 | 5.34E-02 | 2.25E+03 | 5.34E-02 | 2.67E-08 | 7.42E-11 | 1.14E-04 |
| cis-1,3-Dichloropropene | 5.0E-01 | 111 | 7.26E-01 | 4.64E-02 | 1.95E+03 | 4.64E-02 | 2.32E-08 | 6.44E-11 | 9.86E-05 |
| trans-1,3-Dichloropropene | 5.0E-01 | 111 | 7.26E-01 | 4.64E-02 | 1.95E+03 | 4.64E-02 | 2.32E-08 | 6.44E-11 | 9.86E-05 |

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**Equations**

| | |
|---|---|
| Equation 1 | $Kv = 1/(1/k_l + 1/K_H{*}K_g)$ |
| Equation 2 | $k_g = 700(18/MW)^{1/4}V$ |
| Equation 3 | $k_l = (32/MW)^{1/4}Ka'$ |
| Equation 4 | ER = Kv * Cw * L/1000 cm$^3$ * mg/1000 µg |
| Equation 5 | ERa = ER * g/1000 mg * 10000cm$^2$/m$^2$ * hr/60 min * min/60 sec |

| Variables | Units | Exposure Assumptions |
|---|---|---|
| Cw = groundwater concentration | (mg/L) | chem-specific |
| MW = molecular weight | (mol/gram) | chem-specific |
| $K_H$ - Henry's Law Constant | (unitless) | chem-specific |
| Kv = volatilization rate | (cm/hr) | Solved by Eq 1 |
| $k_g$ = gas phase transfer coefficient | (cm/hr) | Solved by Eq 2 |
| $k_l$ = liquid phase transfer coefficient | (cm/hr) | Solved by Eq 3 |
| V = wind speed | (m/s) | 4.4 |
| Ka' = aeration rate | (cm/hr) | 0.0633 |
| ER = emission rate | (mg/hr) | Solved by Eq 4 |
| A = area of excavation (utility ditch) Length = 18 m, width = 2 m | (m$^2$) | 36 |
| Era = area emission rate | (g/sec-m$^2$) | Solved by Eq 5 |
| Ca = air concentration | (mg/m$^3$) | Solved using SCREEN3 mode |

Note: aeration rate based on aeration rate for small pond (0.1/day) multiplied by depth of water in excavation (1/2 ft)

TABLE 8.15.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 1.9E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.9E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 6.0E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.4E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 7.7E-11 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.4E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-07 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.4E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.4E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 7.4E-10 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.4E-08 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 7.4E-09 |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 2.6E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 2.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.2E-09 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 2.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.2E-09 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-07 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.1E-07 |
| | (Total) | | | | | | | | | | 5.6E-06 |

TABLE 8.15.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 7.6E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | N/A | (mg/kg-day) $^{-1}$ | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.8E-09 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.8E-09 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | N/A $^{-1}$ | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.3E-07 |
| | (Total) | | | | | | | | | | 5.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.1E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.16.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 4.5E-06 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 6.7E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.3E-09 | mg/kg-day | 5.5E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.8E-10 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.3E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-06 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-03 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-09 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-07 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-08 |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 6.0E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 6.0E-07 | mg/kg-day | 2.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.2E-08 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 6.0E-07 | mg/kg-day | 2.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.2E-08 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.7E-06 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 1.6E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.8E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.6E-07 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.0E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.6E-06 |
| | (Total) | | | | | | | | | | 1.3E-05 |

TABLE 8.16.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 2.5E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.8E-07 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.2E-07 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 4.2E-10 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.2E-09 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | N/A | (mg/kg-day) $^{-1}$ | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 1.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.4E-08 | mg/kg-day | N/A | N/A $^{-1}$ | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.2E-07 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.4E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.4E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 4.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | (Total) | | | | | | | | | | 1.8E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.5E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.17.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 6.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 9.6E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | 2.0E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.7E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.7E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.5E-06 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 8.6E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 8.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 8.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.5E-06 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | (Total) | | | | | | | | | | 1.9E-05 |

TABLE 8.17.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.1E+00 | mg/kg | 4.1E+00 | mg/kg | M | 1.0E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | Chromium | 1.3E+01 | mg/kg | 1.3E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.7E-06 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | 2-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 4.5E-07 | mg/kg-day | N/A | (mg/kg-day) $^{-1}$ | |
| | 3-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 4.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.1E-09 |
| | 4-Nitroaniline | 5.5E-01 | mg/kg | 5.5E-01 | mg/kg | M | 4.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 9.1E-09 |
| | Acetophenone | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | N/A | N/A $^{-1}$ | |
| | Dibenzo(a,h)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.7E-06 |
| | Hexachlorobenzene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | n-Nitroso-di-n-propylamine | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | (Total) | | | | | | | | | | 7.1E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.6E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.18.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 2.9E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 4.4E-09 |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 9.1E-10 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.7E-08 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 1.2E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.5E-09 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 3.7E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 9.7E-10 | mg/kg-day | 3.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.0E-09 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 5.4E-08 | $mg/m^3$ | R | 5.0E-09 | mg/kg-day | N/A | | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.5E-11 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 7.0E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 7.7E-07 |
| | (Total) | | | | | | | | | | 8.1E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.1E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.18.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.19.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 2.0E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.1E-09 |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 6.4E-10 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.6E-08 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 8.4E-08 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.4E-09 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 2.6E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 6.8E-10 | mg/kg-day | 3.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.1E-09 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 5.4E-08 | $mg/m^3$ | R | 3.5E-09 | mg/kg-day | N/A | | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 1.1E-11 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 4.9E-07 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.4E-07 |
| | (Total) | | | | | | | | | | 5.7E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.7E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.19.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.20.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Air
Exposure Point: Emissions from Site 2 Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 4.1E+00 | mg/kg | 3.1E-09 | $mg/m^3$ | R | 5.0E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 7.4E-09 |
| | Chromium | 1.3E+01 | mg/kg | 9.7E-09 | $mg/m^3$ | R | 1.5E-09 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 6.4E-08 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 2.0E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.9E-09 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 6.3E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.2E-01 | mg/kg | 1.0E-08 | $mg/m^3$ | R | 1.6E-09 | mg/kg-day | 3.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.1E-09 |
| | Benzo(b)fluoranthene | 2.2E-01 | mg/kg | 5.4E-08 | $mg/m^3$ | R | 8.6E-09 | mg/kg-day | N/A | | |
| | Acetophenone | 2.2E-01 | mg/kg | 1.6E-10 | $mg/m^3$ | R | 2.6E-11 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.2E-01 | mg/kg | 7.5E-06 | $mg/m^3$ | R | 1.2E-06 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.3E-06 |
| | (Total) | | | | | | | | | | 1.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.20.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
*MCAS Cherry Point, OU5 Site 2*

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 1.43E-05 | 2.89E+04 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.21.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 4.4E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.2E-06 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 7.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 7.5E-10 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 7.5E-09 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 1.8E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 6.5E-06 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.4E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 7.7E-11 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.4E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.9E-07 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 6.6E-07 |
| | (Total) | | | | | | | | | | 8.2E-06 |

TABLE 8.21.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 7.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.5E-06 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.8E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 7.1E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 5.6E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.7E-10 |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 2.9E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.7E-07 |
| | (Total) | | | | | | | | | | 1.0E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.8E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.22.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 1.0E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.4E-06 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.6E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.8E-09 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 4.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.2E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 1.5E-05 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.3E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.3E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.3E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 5.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 3.9E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | (Total) | | | | | | | | | | 1.9E-05 |

TABLE 8.22.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 2.5E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.8E-06 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 4.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.3E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 2.3E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 5.5E-02 | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 1.8E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.1E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.9E-07 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.6E-08 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 9.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 4.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.9E-07 |
| | (Total) | | | | | | | | | | 3.4E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.2E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.23.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 2.3E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-06 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.4E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 5.9E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.9E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 2.2E-05 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.7E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.7E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.7E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 7.8E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 7.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 7.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 5.0E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 5.6E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.1E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | (Total) | | | | | | | | | | 2.7E-05 |

TABLE 8.23.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 1.0E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.3E-06 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.6E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 9.4E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.4E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | 5.5E-02 | N/A | |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | 1,2-Dibromoethane | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 7.4E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.3E-10 |
| | 2-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 4.1E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 4.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 8.2E-09 |
| | 4-Nitroaniline | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 4.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 8.2E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Indeno(1,2,3-cd)pyrene | 3.6E-01 | mg/kg | 3.6E-01 | mg/kg | M | 3.9E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.6E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | (Total) | | | | | | | | | | 1.4E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.1E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.24.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 1.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.3E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.7E-11 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 2.4E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.7E-10 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 4.1E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 6.1E-08 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 1.5E-07 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.2E-11 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.8E-12 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 3.2E-11 | mg/kg-day | N/A | | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.1E-09 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.1E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.1E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | (Total) | | | | | | | | | | 1.8E-07 |
| Dermal | Benzo(a)pyrene | 9.3E-01 | mg/kg | 9.3E-01 | mg/kg | M | 3.4E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.1E-10 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.9E-10 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.1E-10 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.9E-12 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.1E-10 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.9E-11 |
| | Arsenic | 3.8E+00 | mg/kg | 3.8E+00 | mg/kg | M | 3.5E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.2E-09 |
| | Chromium | 1.4E+01 | mg/kg | 1.4E+01 | mg/kg | M | 3.9E-09 | mg/kg-day | N/A | | |
| | Benzene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 4.3E-13 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.3E-14 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-03 | mg/kg | M | 2.6E-12 | mg/kg-day | N/A | | |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 5.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.7E-10 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-10 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.4E-09 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.7E-10 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | (Total) | | | | | | | | | | 4.8E-08 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.3E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.25.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-08 | $mg/m^3$ | R | 2.7E-09 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 4.1E-08 |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 4.5E-08 | $mg/m^3$ | R | 4.2E-09 | mg/kg-day | 2.4E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.0E-07 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 3.8E-07 | $mg/m^3$ | R | 3.5E-08 | mg/kg-day | 2.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 8.5E-08 |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-07 | $mg/m^3$ | R | 9.8E-09 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 4.0E-07 |
| | Benzene | 3.0E-03 | mg/kg | 1.3E-06 | $mg/m^3$ | R | 1.2E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.5E-09 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.9E-07 | $mg/m^3$ | R | 3.7E-08 | mg/kg-day | N/A | | |
| | Acetophone | 2.0E-01 | mg/kg | 1.5E-09 | $mg/m^3$ | R | 1.4E-10 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 6.1E-10 | $mg/m^3$ | R | 5.7E-11 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 6.3E-11 |
| | (Total) | | | | | | | | | | 6.3E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 6.3E-07 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.25.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 4.11E+01 | 1.72E+04 | 6.29E-14 | 4.36E+08 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.26.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-08 | $mg/m^3$ | R | 1.9E-09 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-08 |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 2.1E-05 | $mg/m^3$ | R | 1.4E-06 | mg/kg-day | 2.4E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.3E-05 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 2.4E-05 | $mg/m^3$ | R | 1.6E-06 | mg/kg-day | 2.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.9E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-07 | $mg/m^3$ | R | 6.9E-09 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.8E-07 |
| | Benzene | 3.0E-03 | mg/kg | 4.2E-06 | $mg/m^3$ | R | 2.8E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 8.0E-09 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 2.1E-06 | $mg/m^3$ | R | 1.4E-07 | mg/kg-day | N/A | | |
| | Acetophone | 2.0E-01 | mg/kg | 1.5E-09 | $mg/m^3$ | R | 1.0E-10 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 9.8E-09 | $mg/m^3$ | R | 6.4E-10 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 7.1E-10 |
| | (Total) | | | | | | | | | | 3.7E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.7E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.26.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.33E-02 | 7.16E+02 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 5.99E-03 | 1.41E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 5.92E-06 | 4.49E+04 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 3.17E-06 | 6.14E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 2.78E-11 | 2.07E+07 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.27.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-08 | $mg/m^3$ | R | 4.6E-09 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 6.9E-08 |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 2.1E-05 | $mg/m^3$ | R | 3.3E-06 | mg/kg-day | 2.4E+01 | $(mg/kg\text{-}day)^{-1}$ | 7.9E-05 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 2.4E-05 | $mg/m^3$ | R | 3.9E-06 | mg/kg-day | 2.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 9.4E-06 |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-07 | $mg/m^3$ | R | 1.7E-08 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 6.8E-07 |
| | Benzene | 3.0E-03 | mg/kg | 4.2E-06 | $mg/m^3$ | R | 6.7E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 1.9E-08 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 2.1E-06 | $mg/m^3$ | R | 3.4E-07 | mg/kg-day | N/A | | |
| | Acetophone | 2.0E-01 | mg/kg | 1.5E-09 | $mg/m^3$ | R | 2.4E-10 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 6.1E-10 | $mg/m^3$ | R | 9.8E-11 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.1E-10 |
| | (Total) | | | | | | | | | | 9.0E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.0E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.27.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_i$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.33E-02 | 7.16E+02 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 5.99E-03 | 1.41E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 5.92E-06 | 4.49E+04 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 3.17E-06 | 6.14E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 2.78E-11 | 2.07E+07 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_i * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.28.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 3.8E+00 | mg/kg | 2.9E-08 | $mg/m^3$ | R | 8.8E-12 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.3E-10 |
| | Benzo(a)pyrene | 9.3E-01 | mg/kg | 3.3E-16 | $mg/m^3$ | R | 1.0E-19 | mg/kg-day | 2.4E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.4E-18 |
| | Benzo(b)fluoranthene | 1.5E+00 | mg/kg | 2.8E-15 | $mg/m^3$ | R | 8.6E-19 | mg/kg-day | 2.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.1E-18 |
| | Chromium | 1.4E+01 | mg/kg | 1.0E-07 | $mg/m^3$ | R | 3.2E-11 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.3E-09 |
| | Benzene | 3.0E-03 | mg/kg | 9.7E-15 | $mg/m^3$ | R | 2.9E-18 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 8.5E-20 |
| | cis-1,2-Dichloroethene | 3.0E-03 | mg/kg | 3.0E-15 | $mg/m^3$ | R | 9.0E-19 | mg/kg-day | N/A | | |
| | Acetophone | 2.0E-01 | mg/kg | 1.5E-09 | $mg/m^3$ | R | 4.6E-13 | mg/kg-day | N/A | | |
| | (Total) | | | | | | | | | | 1.4E-09 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-09 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.28.RME.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_I$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.15E-03 | 2.35E+03 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 2.05E-04 | 7.64E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 2.67E-11 | 2.12E+07 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 7.47E-10 | 4.00E+06 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_I * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**I Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.29.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.2E-07 | mg/kg-day | 1.5E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.8E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 1.5E-07 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 5.5E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.3E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-07 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 2.0E-01 | $(mg/kg\text{-}day)^{-1}$ | 1.6E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 5.7E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.5E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 1.1E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 8.5E-01 | $(mg/kg\text{-}day)^{-1}$ | 6.7E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 9.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 7.1E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 6.8E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.3E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.1E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 6.2E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.9E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 1.0E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 8.4E-02 | $(mg/kg\text{-}day)^{-1}$ | 6.6E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 5.2E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.1E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 7.2E-01 | $(mg/kg\text{-}day)^{-1}$ | 5.7E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.0E-01 | $(mg/kg\text{-}day)^{-1}$ | 7.9E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.9E-09 | mg/kg-day | 1.0E-01 | $(mg/kg\text{-}day)^{-1}$ | 7.9E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 4.3E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 4.5E-01 | $(mg/kg\text{-}day)^{-1}$ | 1.8E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-07 | mg/kg-day | 2.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.1E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-07 | mg/kg-day | 2.0E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.1E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-08 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E-02 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-09 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E-03 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-10 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-07 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.6E+00 | $(mg/kg\text{-}day)^{-1}$ | 6.3E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.8E-02 | $(mg/kg\text{-}day)^{-1}$ | 3.1E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.4E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.5E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.3E-01 | $(mg/kg\text{-}day)^{-1}$ | 2.9E-08 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.2E-01 | $(mg/kg\text{-}day)^{-1}$ | 4.7E-09 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 4.3E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 1.4E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.5E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 7.0E+00 | $(mg/kg\text{-}day)^{-1}$ | 2.7E-07 |
| | (Total) | | | | | | | | | | 1.3E-06 |

TABLE 8.29.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 7.2E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.5E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.7E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.4E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.6E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.6E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.4E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.2E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 7.3E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.5E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.3E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.0E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 8.6E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.6E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.1E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.4E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.2E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.3E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.0E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.0E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.1E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.9E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-05 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.1E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.9E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-03 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.7E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.0E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 5.5E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.0E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.9E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.9E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.5E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 7.1E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.9E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | (Total) | | | | | | | | | | 2.1E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.1E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.29.RME.UA Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^2$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.29.RME.UA Supplement B
Calculation of DAevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | $t^*$[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

Table 8.29.RME.UA Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | $t^*$[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.30.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.4E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 2.1E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 1.7E-07 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 5.0E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 3.3E-07 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.3E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 1.8E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 5.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.3E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 7.8E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 8.3E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 6.2E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.7E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 5.7E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 7.7E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 4.8E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.3E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 9.2E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.2E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 9.2E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 5.0E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 2.1E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 3.7E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 3.7E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.3E-08 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 3.3E-09 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 3.3E-10 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 3.3E-07 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 7.3E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 3.6E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 6.4E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.3E-08 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 5.5E-09 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 5.0E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 6.4E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 3.2E-07 |
| | (Total) | | | | | | | | | | 1.5E-06 |

TABLE 8.30.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 3.3E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.0E-08 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 8.1E-08 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.0E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.0E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.0E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.4E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.9E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 8.7E-09 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.3E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-05 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.8E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.1E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.9E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.7E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.5E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.1E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.9E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.0E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | (Total) | | | | | | | | | | 9.9E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.9E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.30 RME UA Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 6.31.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 2.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 4.0E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 3.3E-07 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 9.7E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 6.4E-07 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 3.5E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 1.0E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 2.5E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 1.5E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 1.6E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 7.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 1.1E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 2.3E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 1.5E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 9.2E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 1.3E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.8E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.8E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 9.7E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.5E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 4.0E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 7.0E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.5E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 7.0E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 6.4E-09 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 6.4E-10 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 6.4E-07 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.4E-07 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 6.9E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 1.1E-08 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 9.7E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 6.2E-07 |
| | (Total) | | | | | | | | | | 2.9E-06 |

TABLE 8.31.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 1.6E-07 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 2.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 6.6E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.8E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 9.3E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 9.6E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.1E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 1.6E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 3.7E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.7E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.1E-07 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 2.3E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.7E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 3.4E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.2E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 4.9E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 3.3E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 2.2E-08 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 3.2E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 2.0E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.5E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.0E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.0E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.0E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 2.8E-08 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.3E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.8E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 6.8E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 8.7E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.6E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.5E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 9.0E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.7E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.2E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 4.5E-05 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-04 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 8.7E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.2E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 4.5E-07 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.6E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.9E-03 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.0E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 3.9E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.0E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 8.0E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.0E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 4.2E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.2E-04 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.2E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.2E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 8.7E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.4E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 1.0E-06 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 7.5E-07 |
| | (Total) | | | | | | | | | | 3.1E-03 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.1E-03 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.31A.RME.UA Supplement
Calculation of Daevent
Resident, Child/Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time ($\tau_{event}$) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm² (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x $\tau$ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm² (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x $\tau$ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.31.RME.UA Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 1

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |
| n-Nitrosodiphenylamine | 198.24 | 2.57 | 3.72E+02 | -2.21E+00 | 6.11E-03 | 3.31E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.36E+00 | 3.56E-01 | 3.24E-01 | 3.25E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

You need to put in the value of MW and log Kow for each chemical

TABLE 8.32.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 2.5E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.8E-07 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 1.9E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 1.3E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 7.3E-11 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 1.3E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.4E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 4.0E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.4E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 1.3E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-08 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.6E-07 |
| | (Total) | | | | | | | | | | 1.8E-06 |

TABLE 8.32.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 1.5E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 1.3E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 7.0E-12 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 7.7E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.4E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.9E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 9.9E-09 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 7.7E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.5E-10 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 9.9E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 9.9E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.4E-08 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 2.6E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 9.9E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.4E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 9.9E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 6.4E-07 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 9.9E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 9.9E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 6.9E-07 |
| | | | | | | | | | | | 4.1E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.2E-05 |

NABS - No absorption fraction available.

Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.33.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 5.9E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.9E-07 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 4.4E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 3.1E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.7E-10 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 3.1E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.7E-07 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.7E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.3E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 9.3E-09 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 3.1E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.6E-09 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.1E-07 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 5.4E-08 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.1E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.7E-08 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.7E-07 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.7E-08 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.1E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 3.7E-08 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.4E-07 |
| | (Total) | | | | | | | | | | 4.2E-06 |

TABLE 8.33.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 7.6E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-05 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 6.6E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.0E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.7E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.9E-05 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.9E-06 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 7.1E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 7.1E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.0E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.3E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.9E-06 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.7E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.9E-05 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.7E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.9E-06 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.3E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 5.3E-06 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.6E-06 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.1E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.6E-05 |
| | | | | | | | | | | | 2.1E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.2E-04 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.34.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 8.5E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.3E-06 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | 6.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.4E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.4E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.9E-09 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 8.9E-09 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 8.9E-09 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 4.4E-07 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.3E-08 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | (Total) | | | | | | | | | | 6.0E-06 |

TABLE 8.34.RME.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 4.2E+00 | mg/kg | 4.2E+00 | mg/kg | M | 7.8E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Chromium | 3.1E+01 | mg/kg | 3.1E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 6.8E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | cis-1,2-Dichloroethene | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.1E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.8E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.0E-05 |
| | Benzo(b)fluoranthene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.0E-06 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 7.2E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.3E-08 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 7.2E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.3E-07 |
| | 1,2-Dibromoethane | 2.2E-02 | mg/kg | 2.2E-02 | mg/kg | M | 4.1E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.5E-08 |
| | 2,4,6-Trichlorophenol | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.2E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | 2-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.2E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | 3-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.4E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 4-Nitroaniline | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 1.4E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | Acetophenone | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.0E-06 |
| | Dibenz(a,h)anthracene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.8E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.0E-05 |
| | Hexachlorobenzene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.2E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Indeno(1,2,3-cd)pyrene | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 6.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.0E-06 |
| | Pentachlorophenol | 2.2E+00 | mg/kg | 2.2E+00 | mg/kg | M | 3.4E-05 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 5.4E-06 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.2E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.8E-06 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 5.2E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | | | | | | | | | | | 2.1E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 2.2E-04 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.35.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.1E-08 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | 7.0E-08 | mg/kg-day | N/A | | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 8.0E-11 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 4.4E-12 |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 8.0E-11 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.2E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.8E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 4.8E-11 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.8E-09 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 6.6E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.4E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.9E-10 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.9E-10 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.2E-08 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 6.3E-09 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 5.7E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | (Total) | | | | | | | | | | 2.0E-07 |

TABLE 8.35.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.9E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 8.0E-11 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 8.0E-10 |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-10 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 7.3E-09 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.0E-08 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 7.3E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 7.3E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.1E-09 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 7.3E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | (Total) | | | | | | | | | | 2.5E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.5E-07 |

NABS - *No absorption fraction available.*

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.36.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 1.4E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 2.1E-09 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 7.6E-10 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 4.6E-11 |
| | cis-1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 3.1E-08 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.1E-09 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 1.7E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 4.8E-11 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 7.1E-10 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 7.6E-11 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 5.7E-11 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 3.4E-09 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 5.2E-11 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 1.1E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 7.0E-11 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 4.4E-11 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 6.0E-10 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 8.4E-11 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-10 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 8.4E-11 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 4.6E-11 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 1.9E-09 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 3.4E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-08 | mg/kg-day | 2.0E-02 | N/A | 3.4E-10 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.1E-09 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 3.1E-10 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 3.1E-11 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 3.1E-08 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 6.7E-09 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 3.3E-10 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 5.9E-11 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 3.1E-09 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 5.0E-10 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 4.6E-09 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 5.9E-11 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 2.9E-08 |
| | (Total) | | | | | | | | | | 1.2E-07 |

TABLE 8.36.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 1

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Industrial Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 3.4E-08 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 7.4E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.9E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.3E-05 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.0E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.4E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.6E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.6E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.7E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.2E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.8E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.3E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.4E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.2E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.3E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.3E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | trans-1,3-Dichloropropene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 4.3E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.2E-07 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.9E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.9E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.4E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.5E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 8.9E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 2.2E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.6E-08 | mg/kg-day | 2.0E-02 | N/A | 9.2E-10 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.0E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.5E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.0E-07 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.0E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.2E-05 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.3E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.0E-06 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.9E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 4.6E-08 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.2E-06 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 4.1E-07 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.2E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 8.7E-09 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.8E-08 |
| | (Total) | | | | | | | | | | 1.4E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.36.CT.UA Supplement
Calculation of Daevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 4 | 3.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 4 | 7.4E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 4 | 3.2E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 4 | 1.8E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 4 | 2.0E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 4 | 1.7E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 4 | 1.7E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 4 | 6.5E-09 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 4 | 1.0E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 4 | 1.9E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 4 | 3.3E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 4 | 1.3E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 4 | 4.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 4 | 9.0E-09 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 4 | 9.1E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 4 | 1.2E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 4 | 1.1E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 4 | 1.1E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 4 | 5.8E-07 | 3 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 4 | 4.8E-08 | 3 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 4 | 3.3E-08 | 3 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 4 | 1.5E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 4 | 1.2E-07 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 4 | 3.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 4 | 1.1E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 4 | 6.2E-07 | 3 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 4 | 1.2E-07 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 4 | 1.3E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 4 | 2.3E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 4 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 4 | 9.3E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 4 | 4.8E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 4 | 2.1E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 4 | 6.6E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 4 | 3.1E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 4 | 5.5E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 4 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 4 | 2.4E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 4 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 4 | 2.8E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.36.CT.UA Supplement B
Calculation of DAevent
Industrial Worker, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 6.37.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 4.0E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 4.8E-08 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.5E-08 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.5E-09 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.5E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.6E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 6.6E-02 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.9E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.6E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.2E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 5.9E-09 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.2E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.5E-09 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 9.5E-10 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.5E-11 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.5E-08 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.5E-09 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.6E-09 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.1E-08 |
| | (Total) | | | | | | | | | | 4.3E-07 |

TABLE 8.37.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 7.6E+00 | µg/L | 7.6E+00 | µg/L | M | 1.8E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.7E-08 |
| | Chromium | 9.3E+00 | µg/L | 9.3E+00 | µg/L | M | 4.4E-08 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.2E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.6E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.2E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.6E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 2.8E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 6.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.6E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.9E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 5.8E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 8.4E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.0E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.9E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.5E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 5.5E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.4E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 3.4E-09 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.7E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 5.6E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.8E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 6.8E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.8E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 6.8E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.2E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.5E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 4.5E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.6E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-06 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.2E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.8E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.6E-06 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.2E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.7E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.2E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | (Total) | | | | | | | | | | 5.3E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.3E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.37.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.6E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-06 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.1E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.2E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.8E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.6E-06 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.2E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.7E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.7E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.2E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.5E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.6E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.2E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | (Total) | | | | | | | | | | 5.3E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.3E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.37.CT.UA Supplement
Calculation of Daevent
Trespasser/Visitor, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.6E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.0E-08 | 1 |
| Chromium | 9.3E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 4.8E-08 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm³ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm³ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

TABLE 8.38.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 1.0E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 2.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.6E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.1E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 1.2E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.0E-07 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 5.6E-08 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 5.1E-08 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 6.5E-09 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | N/A | N/A | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 6.9E-08 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 4.3E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 5.9E-07 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.2E-07 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 8.2E-08 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 4.7E-08 |

TABLE 8.38.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,4-Dinitrophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.7E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-07 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.1E-07 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.1E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 3.1E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.8E-06 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.1E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 5.1E-07 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 4.7E-06 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.2E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.0E-05 |
| | (Total) | | | | | | | | | | 1.2E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.2E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.39.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.8E-07 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.6E-07 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.9E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | 3-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 9.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 8.4E-06 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.2E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 1.0E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Benzo(a)anthracene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.1E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.3E-04 |
| | Benzo(k)fluoranthene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 6.1E-04 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 4.5E-05 |
| | Chrysene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.1E-04 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | Dibenz(a,h)anthracene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.3E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.8E-03 |
| | Dibenzofuran | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.2E-04 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.9E-04 |
| | Hexachlorobutadiene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.7E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 3.7E-06 |
| | Hexachloroethane | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.2E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.7E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.4E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.1E-04 |
| | Naphthalene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.3E-06 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.2E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.7E-04 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 4.4E-05 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.4E-06 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.7E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 7.9E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | (Total) | | | | | | | | | | 1.6E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways: 1.7E-02

TABLE 6.39.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.2E-06 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 2.3E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 1.3E-07 |
| | cis-1,2-Dichloroethane | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 3.9E-06 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 5.4E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 8.1E-06 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 6.9E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.9E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 3.7E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 1.0E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 2.6E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 1.6E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 1.2E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day)$^{-1}$ | 4.4E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 1.1E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day)$^{-1}$ | 1.4E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 2.4E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 1.5E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 9.5E-08 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 2.6E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.8E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.8E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 1.0E-07 |
| | 2,4-Dinitrophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 4.2E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 7.6E-07 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 7.6E-07 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.9E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 6.9E-07 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 6.9E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 6.9E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.5E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 7.3E-07 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.3E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.9E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 1.1E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 1.0E-05 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.3E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 9.4E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 6.6E-05 |
| | (Total) | | | | | | | | | | 2.7E-04 |

TABLE 8.39.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MGAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Chromium | 2.5E+00 | mg/kg | 2.5E+00 | mg/kg | M | 4.6E-08 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | mg/kg | 6.3E-01 | mg/kg | M | 2.4E-07 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 1.3E-08 |
| | cis-1,2-Dichloroethene | 1.1E+00 | mg/kg | 1.1E+00 | mg/kg | M | 2.4E-07 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | mg/kg | 1.5E+00 | mg/kg | M | 1.3E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 2.0E-08 |
| | Benzo(a)pyrene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 6.6E-04 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 4.8E-03 |
| | Benzo(b)fluoranthene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 6.8E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 5.0E-04 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.1E-07 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 4.2E-08 |
| | 1,1,2-Trichloroethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.4E-07 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 7.7E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 3.8E-07 |
| | 1,2-Dibromoethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 7.6E-08 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 6.5E-08 |
| | 1,2-Dichloroethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.3E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 5.7E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 9.2E-09 |
| | 1,3-Dichlorobenzene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day)$^{-1}$ | 2.7E-08 |
| | Bromodichloromethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 8.3E-09 |
| | Bromoform | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.8E-07 | mg/kg-day | 7.9E-03 | (mg/kg-day)$^{-1}$ | 1.4E-09 |
| | Bromomethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 4.0E-08 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 4.4E-07 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 5.8E-08 |
| | Chloroform | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | | |
| | Dibromochloromethane | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 1.0E-08 |
| | Tetrachloroethene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 5.8E-08 |
| | Vinyl chloride | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 6.2E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 8.7E-08 |
| | cis-1,3-Dichloropropene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 7.3E-09 |
| | trans-1,3-Dichloropropene | 5.0E-01 | mg/kg | 5.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 7.3E-09 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.3E-07 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.7E-06 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 9.6E-08 |
| | 2,4-Dinitrophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.5E-07 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.8E-07 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.6E-07 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 1.1E-06 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.9E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 2.7E-08 |
| | 3-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 9.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.9E-08 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 8.4E-06 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.2E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | mg/kg | 1.0E+01 | mg/kg | M | 1.0E-06 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 2.0E-08 |
| | Benzo(a)anthracene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.1E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 2.3E-04 |
| | Benzo(k)fluoranthene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 6.1E-04 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 4.5E-05 |
| | Chrysene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.1E-04 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 2.3E-06 |
| | Dibenz(a,h)anthracene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.3E-03 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 9.8E-03 |
| | Dibenzofuran | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.3E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.2E-04 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.9E-04 |
| | Hexachlorobutadiene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 4.7E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 3.7E-06 |
| | Hexachloroethane | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.2E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 8.4E-04 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.1E-04 |
| | Naphthalene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.3E-06 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.2E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 3.7E-04 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 4.4E-05 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 2.4E-06 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 5.7E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 7.9E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | mg/kg | 2.6E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 1.6E-06 |
| | (Total) | | | | | | | | | | 1.6E-02 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Total Risk Across All Exposure Routes/Pathways 1.7E-02

Table 8.39.CT.UA Supplement
Calculation of DAevent
Child Resident, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 2.5E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 1.7E-09 | 1 |
| Benzene | 6.3E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 0.33 | 8.9E-09 | 2 |
| cis-1,2-Dichloroethene | 1.1E+00 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 0.33 | 8.8E-09 | 2 |
| Arsenic | 1.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 0.33 | 4.8E-10 | 1 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 0.33 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 0.33 | 7.7E-09 | 2 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 0.33 | 4.9E-09 | 2 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 0.33 | 9.9E-09 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 0.33 | 2.8E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 0.33 | 2.3E-09 | 2 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 0.33 | 4.9E-09 | 2 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 0.33 | 6.0E-08 | 2 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 0.33 | 4.1E-08 | 2 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 0.33 | 4.8E-09 | 2 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 0.33 | 6.6E-09 | 2 |
| Bromomethane | 5.0E-01 | 2.6E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 0.33 | 1.5E-09 | 2 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 0.33 | 1.6E-08 | 2 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 0.33 | 4.5E-09 | 2 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 0.33 | 4.4E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 0.33 | 4.0E-08 | 2 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 0.33 | 2.3E-09 | 2 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 0.33 | 2.6E-09 | 2 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 0.33 | 1.6E-08 | 2 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 0.33 | 3.2E-07 | 2 |
| 2,4-Dinitrotoluene | 2.6E+00 | 3.0E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 0.33 | 2.0E-08 | 2 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 0.33 | 1.4E-08 | 2 |
| 2-Chlorophenol | 2.6E+00 | 8.0E-03 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 0.33 | 3.1E-08 | 2 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 0.33 | 3.9E-08 | 2 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 0.33 | 2.2E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 0.33 | 3.5E-08 | 2 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 0.33 | 3.1E-07 | 2 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 0.33 | 1.5E-08 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 0.33 | 3.6E-08 | 2 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 0.33 | 2.2E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 0.33 | 1.1E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 0.33 | 4.9E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 0.33 | 4.7E-07 | 2 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 0.33 | 4.4E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 0.33 | 1.7E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 0.33 | 4.4E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 0.33 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 0.33 | 1.9E-07 | 2 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 0.33 | 1.9E-08 | 2 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 0.33 | 1.3E-05 | 2 |
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 0.33 | 6.8E-09 | 2 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 0.33 | 7.6E-08 | 2 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 9.5E-03 | 0.33 | 2.1E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 0.0E+00 | 0.33 | 8.1E-09 | 2 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm³ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm³ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E)
EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.39.CT.UA Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.40.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-05 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 3.3E-06 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 5.7E-06 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 7.8E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.0E-04 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.3E-07 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.7E-06 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 6.4E-08 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | N/A | N/A | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.7E-06 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.7E-06 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 2.7E-07 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |

TABLE 8.40.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Tap Water
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,4-Dinitrophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 6.1E-06 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 5.5E-05 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.0E-06 |
| | Chrysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.0E-04 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 2.2E-05 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.5E-05 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.9E-07 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.4E-05 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 9.5E-05 |
| | (Total) | | | | | | | | | | 4.0E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.0E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.41.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Chromium | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.4E-09 | mg/kg-day | N/A | N/A | |
| | Benzene | 6.3E-01 | µg/L | 6.3E-01 | µg/L | M | 4.9E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | cis-1,2-Dichloroethene | 1.1E+00 | µg/L | 1.1E+00 | µg/L | M | 4.7E-09 | mg/kg-day | N/A | N/A | |
| | Arsenic | 1.5E+00 | µg/L | 1.5E+00 | µg/L | M | 7.1E-10 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Benzo(a)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.0E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-05 |
| | Benzo(b)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.3E-06 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 4.8E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 2.9E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.8E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 6.7E-10 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.6E-10 |
| | 1,3-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | N/A | N/A | |
| | 1,4-Dichlorobenzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 2.4E-02 | (mg/kg-day) $^{-1}$ | 3.1E-10 |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.6E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 9.9E-11 |
| | Bromoform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-09 | mg/kg-day | 7.9E-03 | (mg/kg-day) $^{-1}$ | 1.0E-11 |
| | Bromomethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.0E-10 | mg/kg-day | N/A | | |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.2E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 6.7E-10 |
| | Chloroform | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-09 | mg/kg-day | N/A | | |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 9.1E-11 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | Vinyl chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | cis-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-10 |
| | trans-1,3-Dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-10 |
| | 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.0E-09 | mg/kg-day | N/A | N/A | |
| | 2,4,6-Trichlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.1E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 7.9E-10 |

TABLE 8.41.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Excavation Pit
Receptor Population: Construction Worker
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,4-Dinitrophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 4.1E-09 | mg/kg-day | N/A | N/A | |
| | 2-Chlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.6E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.9E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.8E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 7.8E-08 | mg/kg-day | N/A | N/A | |
| | 4-Methylphenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 7.4E-09 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.9E-10 |
| | Benzo(a)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.1E-06 |
| | Benzo(k)fluoranthene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.8E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Chysene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | Dibenz(a,h)anthracene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.0E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.4E-05 |
| | Dibenzofuran | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.2E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.0E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 9.5E-07 |
| | Hexachlorobutadiene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.6E-07 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Hexachloroethane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.1E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.8E-06 |
| | Naphthalene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 6.8E-08 | mg/kg-day | N/A | N/A | |
| | Nitrobenzene | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 8.3E-09 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 1.7E-06 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | bis(2-Chloroethoxy)methane | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 2.1E-09 | mg/kg-day | N/A | N/A | |
| | bis(2-Chloroethyl)ether | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.3E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.1E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 4.4E-09 |
| | n-Nitroso-di-n-propylamine | 2.6E+00 | µg/L | 2.6E+00 | µg/L | M | 3.4E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | (Total) | | | | | | | | | | 7.4E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.4E-05 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.41.CT.UA Supplement
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 2.5E+00 | 2.0E-03 | N/A | N/A | N/A | N/A | 4 | 2.0E-08 | 1 |
| Benzene | 6.3E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 4 | 4.0E-08 | 3 |
| cis-1,2-Dichloroethene | 1.1E+00 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 4 | 3.9E-08 | 3 |
| Arsenic | 1.5E+00 | 1.0E-03 | N/A | N/A | N/A | N/A | 4 | 5.9E-09 | 1 |
| Benzo(a)pyrene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.5E-05 | 2 |
| Benzo(b)fluoranthene | 2.6E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 4 | 2.6E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 4 | 2.0E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 4 | 1.7E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 4 | 1.7E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 4 | 6.5E-09 | 3 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 4 | 1.0E-08 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 4 | 1.9E-08 | 3 |
| 1,3-Dichlorobenzene | 5.0E-01 | 5.8E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 3.0E-01 | 4 | 1.4E-07 | 3 |
| 1,4-Dichlorobenzene | 5.0E-01 | 4.2E-02 | 1.0E+00 | 7.1E-01 | 1.7E+00 | 2.0E-01 | 4 | 1.1E-07 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 4 | 1.3E-08 | 3 |
| Bromoform | 5.0E-01 | 2.2E-03 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 2.3E-02 | 4 | 1.1E-08 | 2 |
| Bromomethane | 5.0E-01 | 2.8E-03 | 1.0E+00 | 3.6E-01 | 8.7E-01 | 1.5E-03 | 4 | 6.6E-09 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 4 | 4.3E-08 | 3 |
| Chloroform | 5.0E-01 | 6.8E-03 | 1.0E+00 | 5.0E-01 | 1.2E+00 | 9.3E-03 | 4 | 1.7E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 4 | 9.0E-09 | 3 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 4 | 9.1E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.4E-01 | 5.7E-01 | 2.3E-03 | 4 | 1.3E-08 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 4 | 1.1E-08 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.5E-01 | 1.1E+00 | 4.0E-03 | 4 | 1.1E-08 | 3 |
| 2,2'-Oxybis(1-chloropropane) | 2.6E+00 | 5.5E-03 | 1.0E+00 | 3.9E-01 | 9.4E-01 | 2.1E-02 | 4 | 6.6E-08 | 3 |
| 2,4,6-Trichlorophenol | 2.6E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 4 | 5.9E-07 | 3 |
| 2,4-Dinitrotoluene | 1.0E+01 | 3.0E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 4 | 1.9E-07 | 3 |
| 2,6-Dinitrotoluene | 2.6E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 4 | 3.4E-08 | 3 |
| 2-Chlorophenol | 2.6E+00 | 8.0E-03 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 1.0E-01 | 4 | 1.0E-07 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 4 | 1.3E-07 | 3 |
| 3,3'-Dichlorobenzidine | 2.6E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 4 | 3.3E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 4 | 1.2E-07 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 4 | 6.4E-07 | 3 |
| 4-Methylphenol | 2.6E+00 | 5.0E-03 | 1.0E+00 | 4.2E-01 | 1.0E+00 | 2.0E-02 | 4 | 6.1E-08 | 3 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 4 | 1.2E-07 | 3 |
| Benzo(a)anthracene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.6E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 4 | 2.3E-05 | 2 |
| Chrysene | 2.6E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 4 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.6E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 4 | 5.0E-05 | 2 |
| Dibenzofuran | 2.6E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 4 | 9.6E-07 | 3 |
| Hexachlorobenzene | 2.6E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 4 | 4.9E-06 | 2 |
| Hexachlorobutadiene | 2.6E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 4 | 2.2E-06 | 2 |
| Hexachloroethane | 2.6E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 4 | 6.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.6E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 4 | 3.1E-05 | 2 |
| Naphthalene | 2.6E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 4 | 5.6E-07 | 3 |
| Nitrobenzene | 2.6E+00 | 5.4E-03 | 1.0E+00 | 5.1E-01 | 1.2E+00 | 2.3E-02 | 4 | 6.9E-08 | 3 |
| Pentachlorophenol | 2.6E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 4 | 1.4E-05 | 2 |
| bis(2-Chloroethoxy)methane | 2.6E+00 | 1.2E-03 | 1.0E+00 | 9.8E-01 | 2.4E+00 | 5.8E-03 | 4 | 1.8E-08 | 3 |
| bis(2-Chloroethyl)ether | 2.6E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 4 | 2.5E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.6E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 4 | 2.6E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.6E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 4 | 2.8E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.41.CT.UA Supplement B
Calculation of DAevent
Construction Worker, Groundwater
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2,2'-Oxybis(1-chloropropane) | 102.18 | 1.68 | 4.79E+01 | -2.26E+00 | 5.45E-03 | 2.12E-02 | -3.37E+00 | 4.24E-04 | 1.00E-03 | 4.24E-07 | 3.93E-01 | 3.48E-01 | 3.16E-01 | 9.42E-01 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Methylphenol | 108.14 | 1.67 | 4.68E+01 | -2.30E+00 | 4.97E-03 | 1.99E-02 | -3.41E+00 | 3.93E-04 | 1.00E-03 | 3.93E-07 | 4.24E-01 | 3.47E-01 | 3.15E-01 | 1.02E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| Nitrobenzene | 123.11 | 1.85 | 7.08E+01 | -2.27E+00 | 5.39E-03 | 2.30E-02 | -3.49E+00 | 3.24E-04 | 1.00E-03 | 3.24E-07 | 5.14E-01 | 3.49E-01 | 3.17E-01 | 1.23E+00 |
| bis(2-Chloroethoxy)methane | 173.04 | 1.26 | 1.82E+01 | -2.94E+00 | 1.15E-03 | 5.84E-03 | -3.77E+00 | 1.70E-04 | 1.00E-03 | 1.70E-07 | 9.79E-01 | 3.37E-01 | 3.07E-01 | 2.35E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.42.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.3E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 8.0E-08 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 1.5E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 8.4E-12 |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 1.5E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.0E-08 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.0E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.2E-11 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.2E-09 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 9.2E-10 |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.6E-10 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.0E-08 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.8E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.2E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 1.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 7.7E-08 |
| | (Total) | | | | | | | | | | 3.8E-07 |

TABLE 8.42.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.6E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.4E-08 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 6.3E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 6.3E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 6.3E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | N/A | N/A $^{-1}$ | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.4E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.0E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.8E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | (Total) | | | | | | | | | | 8.0E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.2E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.43.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.3E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.0E-07 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 9.5E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.2E-11 |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 9.5E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.0E-07 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.0E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.7E-10 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.7E-09 |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.7E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.5E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.0E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.1E-07 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.9E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | (Total) | | | | | | | | | | 2.3E-06 |

TABLE 8.43.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.2E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 4.7E-08 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.1E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 5.5E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 5.5E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 5.5E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | N/A | N/A $^{-1}$ | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.8E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.5E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 2.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | (Total) | | | | | | | | | | 7.5E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.1E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.44.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.8E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.7E-07 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | 9.7E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 6.1E-11 |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 7.9E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.8E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.7E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.1E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 6.7E-10 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.7E-08 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.1E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 6.7E-09 |
| | | | | | | M | | | | | |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 2.0E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.0E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.8E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.7E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 8.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.6E-07 |
| | (Total) | | | | | | | | | | 2.7E-06 |

TABLE 8.44.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Site 2 Surface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 6.8E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.0E-07 |
| | Chromium | 2.3E+00 | mg/kg | 2.3E+00 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.6E-03 | mg/kg | 2.6E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzo(a)pyrene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | Benzo(b)fluoranthene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.5E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | Indeno(1,2,3-c,d)pyrene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 0.0E+00 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 0.0E+00 |
| | 2-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | 4-Nitroaniline | 4.7E-01 | mg/kg | 4.7E-01 | mg/kg | M | 1.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | Acetophenone | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | N/A | N/A $^{-1}$ | |
| | Dibenzo(a,h)anthracene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 6.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.5E-07 |
| | Hexachlorobenzene | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 7.5E-08 |
| | bis(2-Chloroethyl)ether | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | n-Nitroso-di-n-propylamine | 1.9E-01 | mg/kg | 1.9E-01 | mg/kg | M | 4.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | (Total) | | | | | | | | | | 1.5E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.2E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.45.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.6E-08 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.6E-09 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.5E-09 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 9.5E-11 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 1.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 9.5E-10 |
| | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.7E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.6E-07 |
| | Chromium | 1.6E+01 | mg/kg | 1.6E+01 | mg/kg | M | 9.4E-07 | mg/kg-day | N/A | | |
| | Benzene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.7E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 9.3E-12 |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.7E-10 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.7E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.4E-10 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 6.0E-10 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 8.6E-08 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 8.6E-09 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 8.3E-08 |
| | (Total) | | | | | | | | | | 5.7E-07 |

TABLE 8.45.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.0E-06 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.0E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.0E-07 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.2E-09 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.0E-07 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 3.9E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.9E-06 |
| | Chromium | 1.6E+01 | mg/kg | 1.6E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 3.9E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.3E-09 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 6.8E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 6.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 6.8E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.4E-08 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.0E-06 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 4.3E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-07 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.0E-07 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.7E-07 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | (Total) | | | | | | | | | | 1.3E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 1.4E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.46.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.4E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.9E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.1E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.9E-10 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 8.1E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.9E-09 |
| | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.1E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | Chromium | 1.6E+01 | mg/kg | 1.6E+01 | mg/kg | M | 5.8E-06 | mg/kg-day | N/A | | |
| | Benzene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.8E-11 |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.1E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 9.0E-10 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.9E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.7E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-08 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.4E-07 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.4E-08 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 7.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 5.2E-07 |
| | (Total) | | | | | | | | | | 3.6E-06 |

TABLE 8.46.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.4E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 3.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Chromium | 1.6E+01 | mg/kg | 1.6E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.0E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 8.6E-11 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 5.9E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.2E-07 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.8E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 3.1E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.2E-08 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 2.6E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.6E-07 |
| | (Total) | | | | | | | | | | 9.0E-07 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.5E-06 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.47.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.2E-07 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.2E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.8E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 6.8E-10 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 9.4E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 6.8E-09 |
| | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.2E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.9E-06 |
| | Chromium | 1.6E+01 | mg/kg | 1.6E+01 | mg/kg | M | 6.8E-06 | mg/kg-day | N/A | | |
| | Benzene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.2E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 6.7E-11 |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.2E-09 | mg/kg-day | N/A | | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 1.2E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | N/A | | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 2.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | N/A | | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 6.2E-07 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Indeno(1,2,3-cd)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 6.2E-08 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 9.4E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 8.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 6.0E-07 |
| | (Total) | | | | | | | | | | 4.2E-06 |

TABLE 8.47.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil
Exposure Point: Site 2 Subsurface Soil
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Benzo(a)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.5E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.5E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | Benzo(a)anthracene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 5.2E-08 |
| | Chrysene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.2E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 5.2E-10 |
| | Benzo(k)fluoranthene | 2.2E-01 | mg/kg | 2.2E-01 | mg/kg | M | 7.2E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 5.2E-09 |
| | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 2.2E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | Chromium | 1.6E+01 | mg/kg | 1.6E+01 | mg/kg | M | NABS | | N/A | N/A | |
| | Benzene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | NABS | | 5.5E-02 | (mg/kg-day) $^{-1}$ | |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | NABS | | N/A | N/A | |
| | 1,2-Dibromoethane | 2.9E-03 | mg/kg | 2.9E-03 | mg/kg | M | 2.2E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 1.8E-10 |
| | 2-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | N/A | N/A | |
| | 3-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | 4-Nitroaniline | 5.1E-01 | mg/kg | 5.1E-01 | mg/kg | M | 1.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.5E-09 |
| | Acetophenone | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | N/A | |
| | Dibenzo(a,h,)anthracene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 4.8E-07 |
| | Hexachlorobenzene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 8.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 6.6E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 4.8E-08 |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.5E-08 |
| | n-Nitroso-di-n-propylamine | 2.0E-01 | mg/kg | 2.0E-01 | mg/kg | M | 5.0E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.5E-07 |
| | (Total) | | | | | | | | | | 1.9E-06 |

NABS - No absorption fraction available.

Total Risk Across All Exposure Routes/Pathways 6.1E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.48.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 2.9E+00 | mg/kg | 2.2E-08 | $mg/m^3$ | R | 9.7E-10 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 1.5E-08 |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 4.5E-06 | $mg/m^3$ | R | 2.0E-07 | mg/kg-day | 2.4E+01 | $(mg/kg\text{-}day)^{-1}$ | 4.7E-06 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 3.3E-06 | $mg/m^3$ | R | 1.4E-07 | mg/kg-day | 2.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 3.4E-07 |
| | Chromium | 1.6E+01 | mg/kg | 1.2E-07 | $mg/m^3$ | R | 5.3E-09 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.2E-07 |
| | Benzene | 2.9E-03 | mg/kg | 4.0E-06 | $mg/m^3$ | R | 1.8E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 5.1E-09 |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.0E-06 | $mg/m^3$ | R | 9.0E-08 | mg/kg-day | N/A | | |
| | Acetophone | 2.0E-01 | mg/kg | 1.5E-09 | $mg/m^3$ | R | 6.7E-11 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 9.8E-09 | $mg/m^3$ | R | 4.3E-10 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 4.8E-10 |
| | (Total) | | | | | | | | | | 5.3E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 5.3E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

**Table 8.48.CT.UA Supplement**
**Calculations of Volatilization Factor and Soil Saturation Concentrations**
***MCAS Cherry Point, OU5 Site 2***

| Chemical | Diffusivity in Air ($D_I$) ($cm^2/s$) | Henry's Law Constant (H') (unitless) | Diffusivity in Water ($D_w$) ($cm^2/s$) | Soil Organic Carbon Partition Coeff. ($K_{oc}$) ($cm^3/g$) | Soil Water Partition Coeff. ($K_d = K_{oc} \times F_{oc}$) ($g/cm^3$) | Solubility in Water (S) (mg/L) | Apparent Diffusivity ($D_A$) ($cm^2/s$) | Volatilization Factor (VF) ($m^3/kg$) |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8.80E-02 | 2.28E-01 | 9.80E-06 | 5.89E+01 | 3.53E-01 | 1.75E+02 | 2.33E-02 | 7.16E+02 |
| cis-1,2-Dichloroethene | 7.26E-02 | 1.67E-02 | 1.13E-05 | 3.55E+01 | 2.13E-01 | 3.50E+02 | 5.99E-03 | 1.41E+03 |
| Benzo(a)pyrene | 4.30E-02 | 4.63E-05 | 9.00E-06 | 1.02E+06 | 6.12E+03 | 1.62E-03 | 5.92E-06 | 4.49E+04 |
| Benzo(b)fluoranthene | 2.26E-02 | 4.55E-03 | 5.56E-06 | 1.23E+06 | 7.38E+03 | 1.50E-03 | 3.17E-06 | 6.14E+04 |
| Acetophenone | N/A | 4.99E-04 | N/A | 4.68E+01 | 2.81E-01 | 1.66E+03 | N/A | N/A |
| bis(2-Chloroethyl)ether | 6.92E-02 | 7.38E-04 | 7.53E-06 | 1.55E+01 | 9.30E-02 | 1.72E+04 | 2.78E-11 | 2.07E+07 |

**Volatilization factor (VF) = ($m^3/kg$)**

$$\frac{Q/C * (3.14 * D_A * T)^{1/2} * 10^{-4}\ m^2/cm^2}{2 * r_b * D_A}$$

**Apparent Diffusivity ($D_A$) = ($cm^2/s$)**

$$\frac{[(Q_a^{10/3} * D_I * H' + Q_w^{10/3} * D_w)/n^2]}{(r_b * K_d + Q_w + Q_a * H')}$$

**Saturation Concentration ($C_{sat}$) = (mg/kg)**

$$S/r_b * (K_d * r_b + Q_w + H' * Q_a)$$

| Parameters | Values |
|---|---|
| Q/C - Inverse of the mean concentration at the center of a 0.5-acre-square source ($g/m^2$-s per $kg/m^3$) | 60.01 |
| T - Exposure interval(s) | 9.5E+08 |
| $r_b$ - Soil bulk density ($g/cm^3$) | 1.5 |
| $Q_a$ - Air-filled soil porosity ($L_{air}/L_{water}$) = n - $Q_w$ | 0.28 |
| n - Total soil porosity (Lpore/Lsoil) = 1 - ($r_b/r_s$) | 0.43 |
| $Q_w$ - Water-filled soil porosity (Lwater/Lsoil) | 0.15 |
| $r_s$ - Soil particle density ($g/cm^3$) | 2.65 |
| $f_{oc}$ - fraction organic carbon in soil (g/g) | 0.006 |

Q/C value for 2 acre source area in Raleigh-Durham from USEPA 1996, *Soil Screening Guidance: User's Guide, EPA/540/R-96/018.*

TABLE 8.49.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: Air
Exposure Point: Emissions from Exposed Subsurface Soil at Site 2
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inhalation | Arsenic | 2.9E+00 | mg/kg | 2.2E-08 | $mg/m^3$ | R | 1.5E-09 | mg/kg-day | 1.5E+01 | $(mg/kg\text{-}day)^{-1}$ | 2.3E-08 |
| | Benzo(a)pyrene | 2.0E-01 | mg/kg | 4.5E-06 | $mg/m^3$ | R | 3.0E-07 | mg/kg-day | 2.4E+01 | $(mg/kg\text{-}day)^{-1}$ | 7.2E-06 |
| | Benzo(b)fluoranthene | 2.0E-01 | mg/kg | 3.3E-06 | $mg/m^3$ | R | 2.2E-07 | mg/kg-day | 2.4E+00 | $(mg/kg\text{-}day)^{-1}$ | 5.3E-07 |
| | Chromium | 1.6E+01 | mg/kg | 1.2E-07 | $mg/m^3$ | R | 8.2E-09 | mg/kg-day | 4.1E+01 | $(mg/kg\text{-}day)^{-1}$ | 3.3E-07 |
| | Benzene | 2.9E-03 | mg/kg | 4.0E-06 | $mg/m^3$ | R | 2.7E-07 | mg/kg-day | 2.9E-02 | $(mg/kg\text{-}day)^{-1}$ | 7.9E-09 |
| | cis-1,2-Dichloroethene | 2.9E-03 | mg/kg | 2.0E-06 | $mg/m^3$ | R | 1.4E-07 | mg/kg-day | N/A | | |
| | Acetophone | 2.0E-01 | mg/kg | 1.5E-09 | $mg/m^3$ | R | 1.0E-10 | mg/kg-day | N/A | | |
| | bis(2-Chloroethyl)ether | 2.0E-01 | mg/kg | 6.1E-10 | $mg/m^3$ | R | 4.1E-11 | mg/kg-day | 1.1E+00 | $(mg/kg\text{-}day)^{-1}$ | 4.6E-11 |
| | (Total) | | | | | | | | | | 8.1E-06 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 8.1E-06 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.50.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 2.5E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 3.8E-09 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 1.4E-09 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 8.3E-11 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 5.5E-08 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 5.5E-09 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 3.0E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 8.6E-11 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 2.1E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 1.4E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 1.0E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 6.0E-09 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 9.3E-11 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 2.0E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 1.3E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 7.8E-11 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 7.2E-01 | (mg/kg-day)$^{-1}$ | 1.1E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.5E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.5E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 1.5E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 8.3E-11 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 3.4E-09 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 6.0E-10 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 6.0E-10 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 5.5E-09 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 5.5E-10 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 5.5E-11 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 5.5E-08 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 1.2E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 5.9E-10 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.1E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 5.5E-09 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 9.0E-10 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 8.3E-09 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 1.1E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.5E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 5.3E-08 |
| | (Total) | | | | | | | | | | 2.2E-07 |

TABLE 6.50.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 3.7E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 5.5E-09 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 3.9E-09 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.1E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.0E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.9E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.0E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.6E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day) $^{-1}$ | 5.1E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.0E-08 | mg/kg-day | 5.7E-02 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.4E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 8.4E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 7.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 9.1E-02 | (mg/kg-day) $^{-1}$ | 1.1E-09 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.3E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day) $^{-1}$ | 1.5E-09 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 4.0E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | 6.2E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.4E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day) $^{-1}$ | 7.1E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 8.4E-02 | (mg/kg-day) $^{-1}$ | 1.0E-09 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-07 | mg/kg-day | 5.2E-02 | (mg/kg-day) $^{-1}$ | 6.2E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.4E-08 | mg/kg-day | 7.2E-01 | (mg/kg-day) $^{-1}$ | 1.0E-08 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.3E-08 | mg/kg-day | 1.0E-01 | (mg/kg-day) $^{-1}$ | 1.3E-09 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.9E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 8.7E-09 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.2E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.2E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.0E-06 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.5E-07 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.6E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 1.4E-07 | mg/kg-day | 2.0E-02 | N/A | 2.8E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-06 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.9E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.4E-05 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.7E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.9E-05 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.4E-07 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.0E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 5.9E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-06 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 7.7E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.2E-05 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.2E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 9.5E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.0E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.9E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.7E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.0E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.1E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day) $^{-1}$ | 5.7E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.4E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.3E-07 |
| | (Total) | | | | | | | | | | 9.8E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 9.8E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.50.CT.UA Supplement
Calculation of Daevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 8.5E-01 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.2E-09 | 1 |
| Chromium | 4.5E-01 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.4E-09 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.50.CT.UA Supplement B
Calculation of DAevent
Resident, Adult, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005. September 2001.

TABLE 8.51.CT.UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 8.0E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 1.2E-08 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 4.2E-09 | mg/kg-day | N/A | | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 2.6E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | N/A | | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.7E-08 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 9.4E-10 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 2.7E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 6.6E-09 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 4.0E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 4.3E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 3.2E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.9E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 2.9E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 6.1E-10 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 3.9E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 2.4E-10 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 6.6E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.7E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 4.7E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 4.7E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 2.6E-10 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.4E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 1.1E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.9E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.4E-08 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 9.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.9E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.7E-08 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 1.7E-09 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 1.7E-10 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.7E-07 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 3.7E-08 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 1.8E-09 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.3E-10 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.7E-08 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 2.8E-09 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 2.6E-08 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 3.3E-10 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 1.6E-07 |
| | (Total) | | | | | | | | | | 6.8E-07 |

TABLE 8.51.CT UA
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 8.5E-01 | µg/L | 8.5E-01 | µg/L | M | 1.7E-09 | mg/kg-day | 1.5E+00 | (mg/kg-day)$^{-1}$ | 2.5E-09 |
| | Chromium | 4.5E-01 | µg/L | 4.5E-01 | µg/L | M | 1.8E-09 | mg/kg-day | N/A | N/A | |
| | Benzene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.7E-08 | mg/kg-day | 5.5E-02 | (mg/kg-day)$^{-1}$ | 9.3E-10 |
| | cis-1,2-Dichloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.7E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 1.3E-04 |
| | Benzo(b)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.9E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.4E-05 |
| | 1,1,2,2-Tetrachloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.2E-08 | mg/kg-day | 2.0E-01 | (mg/kg-day)$^{-1}$ | 2.3E-09 |
| | 1,1,2-Trichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 9.1E-09 | mg/kg-day | 5.7E-02 | (mg/kg-day)$^{-1}$ | 5.2E-10 |
| | 1,2-Dibromo-3-chloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.1E-08 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 1.5E-08 |
| | 1,2-Dibromoethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 3.8E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day)$^{-1}$ | 3.2E-09 |
| | 1,2-Dichloroethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.3E-09 | mg/kg-day | 9.1E-02 | (mg/kg-day)$^{-1}$ | 4.8E-10 |
| | 1,2-Dichloropropane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 1.0E-08 | mg/kg-day | 6.8E-02 | (mg/kg-day)$^{-1}$ | 7.0E-10 |
| | 2-Hexanone | 2.0E+00 | µg/L | 2.0E+00 | µg/L | M | 1.8E-08 | mg/kg-day | N/A | N/A | |
| | Bromodichloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 7.5E-09 | mg/kg-day | 6.2E-02 | (mg/kg-day)$^{-1}$ | 4.7E-10 |
| | Carbon tetrachloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 2.5E-08 | mg/kg-day | 1.3E-01 | (mg/kg-day)$^{-1}$ | 3.2E-09 |
| | Dibromochloromethane | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.5E-09 | mg/kg-day | 8.4E-02 | (mg/kg-day)$^{-1}$ | 4.6E-10 |
| | Tetrachloroethene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.4E-08 | mg/kg-day | 5.2E-02 | (mg/kg-day)$^{-1}$ | 2.8E-09 |
| | Vinyl Chloride | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 6.5E-09 | mg/kg-day | 1.4E+00 | (mg/kg-day)$^{-1}$ | 9.1E-09 |
| | cis-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.7E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 5.7E-10 |
| | trans-1,3-dichloropropene | 5.0E-01 | µg/L | 5.0E-01 | µg/L | M | 5.7E-09 | mg/kg-day | 1.0E-01 | (mg/kg-day)$^{-1}$ | 5.7E-10 |
| | 2,4,6-Trichlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.6E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day)$^{-1}$ | 3.9E-09 |
| | 2,4-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.8E-08 | mg/kg-day | N/A | N/A | |
| | 2,6-Dinitrotoluene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.9E-08 | mg/kg-day | N/A | N/A | |
| | 2-Methylnaphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.9E-07 | mg/kg-day | N/A | N/A | |
| | 2-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.9E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.1E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day)$^{-1}$ | 9.4E-08 |
| | 3-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.2E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.2E-09 |
| | 4,6-Dinitro-2-methylphenol | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 3.8E-07 | mg/kg-day | N/A | N/A | |
| | 4-Nitroaniline | 1.0E+01 | µg/L | 1.0E+01 | µg/L | M | 6.4E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day)$^{-1}$ | 1.3E-09 |
| | Acenaphthylene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.1E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 6.8E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 6.4E-06 |
| | Benzo(k)fluoranthene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.7E-05 | mg/kg-day | 7.3E-02 | (mg/kg-day)$^{-1}$ | 1.2E-06 |
| | Chrysene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 8.8E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day)$^{-1}$ | 6.4E-08 |
| | Dibenz(a,h)anthracene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.6E-05 | mg/kg-day | 7.3E+00 | (mg/kg-day)$^{-1}$ | 2.7E-04 |
| | Dibenzofuran | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 5.7E-07 | mg/kg-day | N/A | N/A | |
| | Hexachlorobenzene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.5E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day)$^{-1}$ | 5.5E-06 |
| | Hexachlorobutadiene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-06 | mg/kg-day | 7.8E-02 | (mg/kg-day)$^{-1}$ | 1.1E-07 |
| | Hexachloroethane | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 4.3E-07 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 6.0E-09 |
| | Indeno(1,2,3-cd)pyrene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 2.3E-05 | mg/kg-day | 7.3E-01 | (mg/kg-day)$^{-1}$ | 1.7E-05 |
| | Naphthalene | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 3.1E-07 | mg/kg-day | N/A | N/A | |
| | Pentachlorophenol | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.0E-05 | mg/kg-day | 1.2E-01 | (mg/kg-day)$^{-1}$ | 1.2E-06 |
| | bis(2-Chloroethyl)ether | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.3E-07 | mg/kg-day | 1.1E+00 | (mg/kg-day)$^{-1}$ | 1.5E-07 |
| | bis(2-Ethylhexyl)phthalate | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.8E-06 | mg/kg-day | 1.4E-02 | (mg/kg-day)$^{-1}$ | 2.8E-08 |
| | n-Nitroso-di-n-propylamine | 2.5E+00 | µg/L | 2.5E+00 | µg/L | M | 1.5E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day)$^{-1}$ | 1.1E-07 |
| | (Total) | | | | | | | | | | 4.4E-04 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 4.4E-04 |

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

Table 8.51.CT.UA Supplement
Calculation of Daevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical of Potential Concern | Surface Water Concentration (CSW) (µg/L) | Permeability Coefficient (Kp) (cm/hr) | Fraction Absorbed Water (FA) (dimensionless) | Lag Time (τ) (hr) | t* (hr) | B (dimensionless) | Duration of Event (tevent) (hr) | DAevent (mg/cm²-event) | Eq |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 8.5E-01 | 1.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.2E-09 | 1 |
| Chromium | 4.5E-01 | 2.0E-03 | N/A | N/A | N/A | N/A | 2.6 | 2.4E-09 | 1 |
| Benzene | 5.0E-01 | 1.5E-02 | 1.0E+00 | 2.9E-01 | 7.0E-01 | 1.0E-01 | 2.6 | 2.3E-08 | 3 |
| cis-1,2-Dichloroethene | 5.0E-01 | 7.7E-03 | 1.0E+00 | 3.7E-01 | 8.9E-01 | 7.2E-03 | 2.6 | 1.3E-08 | 3 |
| Benzo(a)pyrene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.4E-05 | 2 |
| Benzo(b)fluoranthene | 2.5E+00 | 7.0E-01 | 1.0E+00 | 2.8E+00 | 1.2E+01 | 4.3E+00 | 2.6 | 2.5E-05 | 2 |
| 1,1,2,2-Tetrachloroethane | 5.0E-01 | 6.9E-03 | 1.0E+00 | 9.3E-01 | 2.2E+00 | 2.5E-02 | 2.6 | 1.5E-08 | 3 |
| 1,1,2-Trichloroethane | 5.0E-01 | 6.4E-03 | 1.0E+00 | 6.0E-01 | 1.4E+00 | 1.1E-02 | 2.6 | 1.2E-08 | 3 |
| 1,2-Dibromo-3-chloropropane | 5.0E-01 | 4.1E-03 | 1.0E+00 | 2.2E+00 | 5.3E+00 | 2.4E-02 | 2.6 | 1.4E-08 | 2 |
| 1,2-Dibromoethane | 5.0E-01 | 2.0E-03 | 1.0E+00 | 1.2E+00 | 2.8E+00 | 1.1E-02 | 2.6 | 5.1E-09 | 2 |
| 1,2-Dichloroethane | 5.0E-01 | 4.2E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.3E-04 | 2.6 | 7.1E-09 | 3 |
| 1,2-Dichloropropane | 5.0E-01 | 7.8E-03 | 1.0E+00 | 4.6E-01 | 1.1E+00 | 1.0E-02 | 2.6 | 1.4E-08 | 3 |
| 2-Hexanone | 2.0E+00 | 3.5E-03 | 1.0E+00 | 3.8E-01 | 9.2E-01 | 1.4E-02 | 2.6 | 2.4E-08 | 3 |
| Bromodichloromethane | 5.0E-01 | 4.6E-03 | 1.0E+00 | 8.8E-01 | 2.1E+00 | 1.2E-02 | 2.6 | 1.0E-08 | 3 |
| Carbon tetrachloride | 5.0E-01 | 1.6E-02 | 1.0E+00 | 7.8E-01 | 1.9E+00 | 1.0E-01 | 2.6 | 3.3E-08 | 3 |
| Dibromochloromethane | 5.0E-01 | 2.5E-03 | 1.0E+00 | 1.5E+00 | 3.7E+00 | 1.4E-02 | 2.6 | 7.3E-09 | 2 |
| Tetrachloroethene | 5.0E-01 | 3.3E-02 | 1.0E+00 | 9.1E-01 | 2.2E+00 | 2.0E-01 | 2.6 | 7.2E-08 | 3 |
| Vinyl chloride | 5.0E-01 | 5.6E-03 | 1.0E+00 | 2.5E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 8.6E-09 | 3 |
| cis-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| trans-1,3-Dichloropropene | 5.0E-01 | 4.3E-03 | 1.0E+00 | 4.7E-01 | 1.1E+00 | 1.7E-02 | 2.6 | 7.6E-09 | 3 |
| 2,4,6-Trichlorophenol | 2.5E+00 | 3.5E-02 | 1.0E+00 | 1.4E+00 | 3.3E+00 | 2.0E-01 | 2.6 | 4.7E-07 | 2 |
| 2,4-Dinitrotoluene | 2.5E+00 | 3.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 9.5E-03 | 2.6 | 3.7E-08 | 2 |
| 2,6-Dinitrotoluene | 2.5E+00 | 2.1E-03 | 1.0E+00 | 1.1E+00 | 2.7E+00 | 5.2E-03 | 2.6 | 2.5E-08 | 2 |
| 2-Methylnaphthalene | 2.5E+00 | 1.3E-01 | 1.0E+00 | 6.6E-01 | 1.6E+00 | 6.0E-01 | 2.6 | 1.2E-06 | 3 |
| 2-Nitroaniline | 1.0E+01 | 2.4E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.1E-02 | 2.6 | 9.1E-08 | 3 |
| 3,3'-Dichlorobenzidine | 2.5E+00 | 1.3E-02 | 1.0E+00 | 2.8E+00 | 6.7E+00 | 1.0E-01 | 2.6 | 2.8E-07 | 2 |
| 3-Nitroaniline | 1.0E+01 | 2.1E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 9.7E-03 | 2.6 | 8.2E-08 | 3 |
| 4,6-Dinitro-2-methylphenol | 1.0E+01 | 9.4E-03 | 1.0E+00 | 1.4E+00 | 3.2E+00 | 5.1E-02 | 2.6 | 5.0E-07 | 2 |
| 4-Nitroaniline | 1.0E+01 | 2.2E-03 | 1.0E+00 | 6.2E-01 | 1.5E+00 | 1.0E-02 | 2.6 | 8.5E-08 | 3 |
| Acenaphthylene | 2.5E+00 | 1.1E-01 | 1.0E+00 | 7.5E-01 | 1.8E+00 | 5.2E-01 | 2.6 | 1.1E-06 | 3 |
| Benzo(a)anthracene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Benzo(k)fluoranthene | 2.5E+00 | 6.5E-01 | 1.0E+00 | 2.7E+00 | 1.2E+01 | 4.0E+00 | 2.6 | 2.2E-05 | 2 |
| Chrysene | 2.5E+00 | 4.7E-01 | 1.0E+00 | 2.0E+00 | 8.5E+00 | 2.8E+00 | 2.6 | 1.2E-05 | 2 |
| Dibenz(a,h)anthracene | 2.5E+00 | 1.5E+00 | 6.0E-01 | 3.9E+00 | 1.8E+01 | 9.7E+00 | 2.6 | 4.8E-05 | 2 |
| Dibenzofuran | 2.5E+00 | 6.9E-02 | 1.0E+00 | 9.2E-01 | 2.2E+00 | 3.4E-01 | 2.6 | 7.5E-07 | 3 |
| Hexachlorobenzene | 2.5E+00 | 1.3E-01 | 9.0E-01 | 4.2E+00 | 1.6E+01 | 9.0E-01 | 2.6 | 4.6E-06 | 2 |
| Hexachlorobutadiene | 2.5E+00 | 8.1E-02 | 9.0E-01 | 3.1E+00 | 7.4E+00 | 5.0E-01 | 2.6 | 1.9E-06 | 2 |
| Hexachloroethane | 2.5E+00 | 3.0E-02 | 1.0E+00 | 2.3E+00 | 5.4E+00 | 2.0E-01 | 2.6 | 5.7E-07 | 2 |
| Indeno(1,2,3-cd)pyrene | 2.5E+00 | 1.0E+00 | 6.0E-01 | 3.8E+00 | 1.7E+01 | 6.7E+00 | 2.6 | 3.0E-05 | 2 |
| Naphthalene | 2.5E+00 | 4.7E-02 | 1.0E+00 | 5.6E-01 | 1.3E+00 | 2.0E-01 | 2.6 | 4.1E-07 | 3 |
| Pentachlorophenol | 2.5E+00 | 3.9E-01 | 9.0E-01 | 3.3E+00 | 1.4E+01 | 2.5E+00 | 2.6 | 1.4E-05 | 2 |
| bis(2-Chloroethyl)ether | 2.5E+00 | 1.8E-02 | 1.0E+00 | 6.8E-01 | 1.6E+00 | 1.9E-03 | 2.6 | 1.8E-07 | 3 |
| bis(2-Ethylhexyl)phthalate | 2.5E+00 | 2.4E-02 | 1.0E+00 | 1.6E+01 | 3.9E+01 | 1.8E-01 | 2.6 | 2.5E-06 | 2 |
| n-Nitroso-di-n-propylamine | 2.5E+00 | 2.2E-03 | 1.0E+00 | 5.6E-01 | 1.4E+00 | 9.5E-03 | 2.6 | 2.0E-08 | 3 |

**Inorganics: DAevent (mg/cm2-event) =**
Kp x CSW x tevent x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 1)

**Organics: DAevent (mg/cm2-event) =**
tevent<t*: DAevent (mg/cm2-event) =
2 x Kp x CSW x (sqrt((6 x τ x tevent)/3.1415)) x 0.001 mg/ug x 0.001 l/cm$^3$ (eq 2)

tevent>t*: DAevent (mg/cm2-event) =
Kp x CSW x ( tevent/(1+B) + 2 x τ x ((1 + 3xB)/(1+B)) x 0.001 mg/ug x 0.001 l/cm3 (eq 3)

Notes:
Permeability constants from EPA 2001, Risk Assessment Guidance for Superfund Volume I: (Part E) EPA540/R/99/005.
N/A - not available or not applicable.

Table 8.51.CT.UA Supplement B
Calculation of DAevent
Resident, Child, Surface Water
MCAS Cherry Point, OU5 Site 2

| Chemical | MW | log Kow | Kow | log Kp[1] | Kp (cm/hr) | B[1] | log $D_{sc}/l_{sc}$[1] | $D_{sc}/l_{sc}$[1] | $l_{sc}$ (cm) | $D_{sc}$ ($cm^2$/hr) | $\tau_{event}$[1] (hr) | c[1] | b[1] | t*[1] (hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | 236.36 | 2.63 | 4.27E+02 | -2.39E+00 | 4.09E-03 | 2.42E-02 | -4.12E+00 | 7.52E-05 | 1.00E-03 | 7.52E-08 | 2.22E+00 | 3.50E-01 | 3.18E-01 | 5.32E+00 |
| 1,2-Dibromoethane | 187.86 | 1.76 | 5.75E+01 | -2.69E+00 | 2.04E-03 | 1.08E-02 | -3.85E+00 | 1.41E-04 | 1.00E-03 | 1.41E-07 | 1.19E+00 | 3.41E-01 | 3.10E-01 | 2.84E+00 |
| 2-Hexanone | 100.16 | 1.38 | 2.40E+01 | -2.45E+00 | 3.55E-03 | 1.37E-02 | -3.36E+00 | 4.36E-04 | 1.00E-03 | 4.36E-07 | 3.83E-01 | 3.42E-01 | 3.12E-01 | 9.18E-01 |
| Dibromochloromethane | 208.28 | 2.08 | 1.20E+02 | -2.59E+00 | 2.55E-03 | 1.42E-02 | -3.97E+00 | 1.08E-04 | 1.00E-03 | 1.08E-07 | 1.54E+00 | 3.43E-01 | 3.12E-01 | 3.70E+00 |
| 2-Methylnaphthalene | 142.21 | 4.11 | 1.29E+04 | -8.84E-01 | 1.31E-01 | 5.99E-01 | -3.60E+00 | 2.53E-04 | 1.00E-03 | 2.53E-07 | 6.58E-01 | 8.08E-01 | 8.21E-01 | 1.58E+00 |
| 2-Nitroaniline | 138.12 | 1.44 | 2.75E+01 | -2.62E+00 | 2.38E-03 | 1.08E-02 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.41E-01 | 3.10E-01 | 1.50E+00 |
| 3-Nitroaniline | 138.12 | 1.37 | 2.34E+01 | -2.67E+00 | 2.14E-03 | 9.68E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| 4,6-Dinitro-2-methylphenol | 198.14 | 2.85 | 7.08E+02 | -2.03E+00 | 9.36E-03 | 5.07E-02 | -3.91E+00 | 1.23E-04 | 1.00E-03 | 1.23E-07 | 1.35E+00 | 3.68E-01 | 3.35E-01 | 3.25E+00 |
| 4-Nitroaniline | 138.12 | 1.39 | 2.45E+01 | -2.66E+00 | 2.21E-03 | 9.98E-03 | -3.57E+00 | 2.67E-04 | 1.00E-03 | 2.67E-07 | 6.24E-01 | 3.40E-01 | 3.09E-01 | 1.50E+00 |
| Acenaphthylene | 152.2 | 4.08 | 1.20E+04 | -9.60E-01 | 1.10E-01 | 5.21E-01 | -3.65E+00 | 2.23E-04 | 1.00E-03 | 2.23E-07 | 7.48E-01 | 7.40E-01 | 7.32E-01 | 1.80E+00 |
| Anthracene | 178 | 2.13 | 1.35E+02 | -2.39E+00 | 4.06E-03 | 2.09E-02 | -3.80E+00 | 1.60E-04 | 1.00E-03 | 1.60E-07 | 1.04E+00 | 3.47E-01 | 3.16E-01 | 2.51E+00 |
| Benzo(k)fluoranthene | 252 | 6.1 | 1.26E+06 | -1.85E-01 | 6.53E-01 | 3.99E+00 | -4.21E+00 | 6.15E-05 | 1.00E-03 | 6.15E-08 | 2.71E+00 | 4.05E+00 | 1.18E+01 | 1.17E+01 |
| Dibenzofuran | 168.19 | 3.91 | 8.13E+03 | -1.16E+00 | 6.90E-02 | 3.44E-01 | -3.74E+00 | 1.81E-04 | 1.00E-03 | 1.81E-07 | 9.20E-01 | 5.92E-01 | 5.58E-01 | 2.21E+00 |
| bis(2-Ethylhexyl)phthalate | 390.54 | 5.11 | 1.29E+05 | -1.61E+00 | 2.43E-02 | 1.85E-01 | -4.99E+00 | 1.03E-05 | 1.00E-03 | 1.03E-08 | 1.62E+01 | 4.66E-01 | 4.27E-01 | 3.88E+01 |
| n-Nitroso-di-n-propylamine | 130.19 | 1.31 | 2.04E+01 | -2.66E+00 | 2.17E-03 | 9.50E-03 | -3.53E+00 | 2.96E-04 | 1.00E-03 | 2.96E-07 | 5.64E-01 | 3.40E-01 | 3.09E-01 | 1.35E+00 |

1. Equations from Risk Assessment Guidance for Superfund Volume 1; Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment, EPA/540/R/99/005, September 2001.

TABLE 8.52.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.7E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.5E-08 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | 8.4E-08 | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.1E-11 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 3.4E-12 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.1E-11 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.2E-09 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 3.8E-11 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 5.2E-09 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.1E-11 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.2E-11 |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 3.0E-11 |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 6.9E-09 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 1.2E-09 |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.5E-11 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 5.5E-11 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 2.0E-08 |
| | Hexachlorobenzene | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 6.9E-09 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 1.1E-08 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 2.0E-09 |
| | Pentachlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.8E-09 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 3.3E-10 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 4.9E-09 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 5.4E-09 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 4.9E-09 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | (Total) | | | | | | | | | | 1.2E-07 |

TABLE 8.52.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.7E-08 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.6E-08 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 1.1E-11 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.8E-13 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.4E-11 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.0E-08 |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.0E-09 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.7E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.3E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.7E-09 |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 6.4E-11 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 5.4E-11 |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.0E-10 |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.4E-08 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 4.3E-09 |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 9.5E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.0E-09 |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 9.0E-08 |
| | Hexachlorobenzene | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.4E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.2E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 9.0E-09 |
| | Pentachlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.4E-08 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.8E-09 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.9E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.2E-07 |
| | | | | | | | | | | | 3.8E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 3.8E-05 |

NABS - No absorption fraction available.

Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.53.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.0E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | 5.2E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 3.8E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.1E-11 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 3.8E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.2E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.4E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.2E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 3.8E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.2E-10 |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 1.9E-10 |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 4.3E-08 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 7.7E-09 |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 3.4E-10 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.3E-07 |
| | Hexachlorobenzene | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 4.3E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 6.9E-08 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.3E-08 |
| | Pentachlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.7E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.1E-09 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.1E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.4E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.1E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.1E-07 |
| | (Total) | | | | | | | | | | 7.7E-07 |

TABLE 8.53.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.5E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 9.1E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.0E-11 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.7E-06 |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-07 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.0E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.0E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.6E-09 |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.2E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 9.0E-09 |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.2E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.2E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.6E-08 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.2E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-07 |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.7E-06 |
| | Hexachlorobenzene | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.7E-07 |
| | Pentachlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | | | | | | | | | | | 7.0E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.1E-05 |

NABS - No absorption fraction available.

Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.54.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingestion | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.2E-07 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 1.8E-07 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | 6.1E-07 | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 4.4E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 2.4E-11 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 4.4E-10 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.8E-08 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 2.7E-10 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 3.8E-08 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 2.7E-09 |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 4.4E-10 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 3.8E-10 |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 2.2E-10 |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 5.0E-08 | mg/kg-day | N/A | | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 9.0E-09 |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.0E-10 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 4.0E-10 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | N/A | | |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | Hexachlorobenzene | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 5.0E-08 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 8.0E-08 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Pentachlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.0E-08 | mg/kg-day | 1.2E-01 | (mg/kg-day) $^{-1}$ | 2.4E-09 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.6E-08 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 3.9E-08 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 3.6E-08 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 2.5E-07 |
| | (Total) | | | | | | | | | | 9.0E-07 |

TABLE 8.54.CT.UA
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reeds Gut and Unnamed Tributaries
Receptor Population: Resident
Receptor Age: Child/Adult

| Exposure Route | Chemical of Potential Concern | Medium EPC Value | Medium EPC Units | Route EPC Value | Route EPC Units | EPC Selected for Risk Calculation (1) | Intake (Cancer) | Intake (Cancer) Units | Cancer Slope Factor | Cancer Slope Factor Units | Cancer Risk |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dermal | Arsenic | 2.9E+00 | mg/kg | 2.9E+00 | mg/kg | M | 1.5E-06 | mg/kg-day | 1.5E+00 | (mg/kg-day) $^{-1}$ | 2.2E-06 |
| | Chromium | 1.5E+01 | mg/kg | 1.5E+01 | mg/kg | M | NABS | mg/kg-day | N/A | N/A | |
| | Benzene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 9.2E-10 | mg/kg-day | 5.5E-02 | (mg/kg-day) $^{-1}$ | 5.1E-11 |
| | cis-1,2-Dichloroethene | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | N/A | N/A | |
| | Benzo(a)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.8E-06 |
| | Benzo(b)fluoranthene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.8E-07 |
| | Chrysene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.0E-06 | mg/kg-day | 7.3E-03 | (mg/kg-day) $^{-1}$ | 1.5E-08 |
| | Benzo(k)fluoranthene | 9.0E-01 | mg/kg | 9.0E-01 | mg/kg | M | 2.0E-06 | mg/kg-day | 7.3E-02 | (mg/kg-day) $^{-1}$ | 1.5E-07 |
| | 1,2-Dibromoethane | 1.1E-02 | mg/kg | 1.1E-02 | mg/kg | M | 5.5E-09 | mg/kg-day | 8.5E-01 | (mg/kg-day) $^{-1}$ | 4.7E-09 |
| | 2,4,6-Trichlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.3E-07 | mg/kg-day | 1.1E-02 | (mg/kg-day) $^{-1}$ | 9.1E-09 |
| | 2-Nitroaniline | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | N/A | N/A | |
| | 3,3'-Dichlorobenzidine | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.3E-07 | mg/kg-day | 4.5E-01 | (mg/kg-day) $^{-1}$ | 3.7E-07 |
| | 3-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | 4-Nitroaniline | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.3E-07 | mg/kg-day | 2.0E-02 | (mg/kg-day) $^{-1}$ | 1.7E-08 |
| | Acetophenone | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 8.3E-07 | mg/kg-day | N/A | N/A | |
| | Benzo(a)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.8E-07 |
| | Dibenz(a,h)anthracene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E+00 | (mg/kg-day) $^{-1}$ | 7.8E-06 |
| | Hexachlorobenzene | 1.2E+00 | mg/kg | 1.2E+00 | mg/kg | M | 2.1E-06 | mg/kg-day | 1.6E+00 | (mg/kg-day) $^{-1}$ | 3.7E-05 |
| | Indeno(1,2,3-cd)pyrene | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 1.1E-06 | mg/kg-day | 7.3E-01 | (mg/kg-day) $^{-1}$ | 7.8E-07 |
| | Pentachlorophenol | 4.8E-01 | mg/kg | 4.8E-01 | mg/kg | M | 2.1E-06 | mg/kg-day | 1.6E-01 | (mg/kg-day) $^{-1}$ | 3.3E-07 |
| | bis(2-Chloroethyl)ether | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 1.1E+00 | (mg/kg-day) $^{-1}$ | 1.6E-06 |
| | n-Nitroso-di-n-propylamine | 8.5E-01 | mg/kg | 8.5E-01 | mg/kg | M | 1.5E-06 | mg/kg-day | 7.0E+00 | (mg/kg-day) $^{-1}$ | 1.0E-05 |
| | | | | | | | | | | | 7.0E-05 |
| | | | | | | | | | | Total Risk Across All Exposure Routes/Pathways | 7.1E-05 |

NABS - No absorption fraction available.

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 9.1.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 2.1E-06 | N/A | 1.1E-06 | 3.2E-06 | Arsenic | Skin, vascular | 1.3E-02 | N/A | 6.8E-04 | 1.4E-02 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 4.2E-03 | N/A | 0.0E+00 | 4.2E-03 |
| | | | Benzene | 5.8E-11 | N/A | 0.0E+00 | 5.8E-11 | Benzene | Blood | 9.8E-07 | N/A | 0.0E+00 | 9.8E-07 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 2.9E-07 | N/A | 0.0E+00 | 2.9E-07 |
| | | | Benzo(a)pyrene | 5.5E-07 | N/A | 1.2E-06 | 1.8E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 5.5E-08 | N/A | 1.2E-07 | 1.8E-07 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 5.5E-08 | N/A | 1.2E-07 | 1.8E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 5.5E-10 | N/A | 1.2E-09 | 1.8E-09 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Indeno(1,2,3-c,d)pyrene | 5.5E-08 | N/A | 1.2E-07 | 1.8E-07 | Indeno(1,2,3-c,d)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | benzo(k)fluoranthene | 5.5E-09 | N/A | 1.2E-08 | 1.8E-08 | benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 3.8E-09 | N/A | 6.5E-09 | 1.0E-08 | 3-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 3.0E-03 | 3.0E-03 |
| | | | 4-Nitroaniline | 3.8E-09 | N/A | 6.5E-09 | 1.0E-08 | 4-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 3.0E-04 | 3.0E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 0.0E+00 | N/A | 3.6E-06 | 3.6E-06 |
| | | | Dibenzo(a,h)anthracene | 5.5E-07 | N/A | 1.2E-06 | 1.8E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.2E-07 | N/A | 2.0E-07 | 3.2E-07 | Hexachlorobenzene | Liver | 1.8E-03 | N/A | 4.5E-04 | 2.2E-03 |
| | | | bis(2-Chloroethyl)ether | 8.3E-08 | N/A | 1.4E-07 | 2.2E-07 | bis(2-Chloroethyl)ether | N/A | 1.8E-04 | N/A | 0.0E+00 | 1.8E-04 |
| | | | n-Nitroso-di-n-propylamine | 5.3E-07 | N/A | 8.9E-07 | 1.4E-06 | n-Nitroso-di-n-propylamine | N/A | 2.1E-06 | N/A | 0.0E+00 | 2.1E-06 |
| | | | (Total) | 4.2E-06 | N/A | 5.1E-06 | 9.3E-06 | (Total) | | 2.0E-02 | N/A | 4.5E-03 | 2.4E-02 |
| Surface Soil | Air | Emissions from Site 2 Surface Soil | Arsenic | N/A | 1.1E-09 | N/A | 1.1E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chromium | N/A | 9.2E-09 | N/A | 9.2E-09 | Chromium | Respiratory System | N/A | 2.1E-05 | N/A | 2.1E-05 |
| | | | Benzene | N/A | 8.6E-10 | N/A | 8.6E-10 | Benzene | Blood | N/A | 4.9E-05 | N/A | 4.9E-05 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 7.4E-10 | N/A | 7.4E-10 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 1.9E-07 | N/A | 1.9E-07 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | 0.0E+00 | 2.0E-07 | 0.0E+00 | 2.0E-07 | (Total) | | 0.0E+00 | 7.0E-05 | 0.0E+00 | 7.0E-05 |

TABLE 9.1.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.9E-07 | N/A | 1.1E-07 | 3.1E-07 | Arsenic | Skin/vascular | 1.2E-03 | N/A | 1.2E-07 | 1.2E-03 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 1.5E-04 | N/A | 1.2E-06 | 1.5E-04 |
| | | | Benzene | 4.6E-10 | N/A | 4.1E-09 | 4.6E-09 | Benzene | Blood | 7.8E-06 | N/A | 1.2E-08 | 7.8E-06 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 2.3E-06 | N/A | 2.0E-09 | 2.4E-06 |
| | | | Benzo(a)pyrene | 3.1E-07 | N/A | 2.4E-04 | 2.4E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.1E-08 | N/A | 2.4E-05 | 2.4E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.7E-09 | N/A | 8.4E-09 | 1.0E-08 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 3.9E-07 | N/A | 3.3E-10 | 3.9E-07 |
| | | | 1,1,2-Trichloroethane | 4.8E-10 | N/A | 2.1E-09 | 2.6E-09 | 1,1,2-Trichloroethane | Blood | 5.9E-06 | N/A | 4.3E-09 | 5.9E-06 |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-08 | N/A | 4.5E-08 | 5.6E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.1E-09 | N/A | 1.1E-08 | 1.8E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 7.6E-10 | N/A | 2.1E-09 | 2.9E-09 | 1,2-Dichloroethane | Liver | 7.8E-07 | N/A | 3.6E-10 | 7.8E-07 |
| | | | 1,2-Dichloropropane | 5.7E-10 | N/A | 3.0E-09 | 3.5E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 2.3E-06 | N/A | 9.0E-10 | 2.3E-06 |
| | | | Bromodichloromethane | 5.2E-10 | N/A | 1.7E-09 | 2.3E-09 | Bromodichloromethane | Kidney | 1.2E-06 | N/A | 6.5E-10 | 1.2E-06 |
| | | | Carbon Tetrachloride | 1.1E-09 | N/A | 1.2E-08 | 1.3E-08 | Carbon Tetrachloride | Liver | 3.4E-05 | N/A | 6.0E-08 | 3.4E-05 |
| | | | Dibromochloromethane | 7.0E-10 | N/A | 1.5E-09 | 2.2E-09 | Dibromochloromethane | Liver | 1.2E-06 | N/A | 5.2E-10 | 1.2E-06 |
| | | | Tetrachloroethene | 4.4E-10 | N/A | 9.5E-09 | 1.0E-08 | Tetrachloroethene | Liver/whole body | 2.3E-06 | N/A | 8.6E-09 | 2.4E-06 |
| | | | Vinyl chloride | 6.0E-09 | N/A | 2.1E-08 | 2.7E-08 | Vinyl chloride | Liver | 7.8E-06 | N/A | 1.7E-07 | 8.0E-06 |
| | | | cis-1,3-Dichloropropene | 8.4E-10 | N/A | 2.4E-09 | 3.2E-09 | cis-1,3-Dichloropropene | skin | 7.8E-07 | N/A | 1.5E-09 | 7.8E-07 |
| | | | trans-1,3-Dichloropropene | 8.4E-10 | N/A | 2.4E-09 | 3.2E-09 | trans-1,3-Dichloropropene | skin | 7.8E-07 | N/A | 1.0E-09 | 7.8E-07 |
| | | | 2,4,6-Trichlorophenol | 4.6E-10 | N/A | 1.2E-08 | 1.2E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 5.9E-05 | N/A | 2.3E-08 | 5.9E-05 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.2E-04 | N/A | 3.1E-08 | 1.2E-04 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin | 5.9E-06 | N/A | 6.7E-08 | 5.9E-06 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.9E-08 | N/A | 2.5E-07 | 2.7E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 3.4E-09 | N/A | 0.0E+00 | 3.4E-09 | 3-Nitroaniline | Liver, Blood, CNS | 1.6E-03 | N/A | 3.8E-07 | 1.6E-03 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 4.7E-03 | N/A | 5.7E-06 | 4.7E-03 |
| | | | 4-Nitroaniline | 3.4E-09 | N/A | 5.1E-09 | 8.5E-09 | 4-Nitroaniline | Liver, Blood, CNS | 1.6E-04 | N/A | 3.9E-08 | 1.6E-04 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 3.1E-08 | N/A | 1.2E-05 | 1.2E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |

TABLE 9.1.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Benzo(k)fluoranthene | 3.1E-09 | N/A | 2.2E-06 | 2.2E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 3.1E-10 | N/A | 1.2E-07 | 1.2E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.1E-07 | N/A | 4.5E-04 | 4.5E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 2.9E-05 | N/A | 2.1E-07 | 3.0E-05 |
| | | | Hexachlorobenzene | 6.7E-08 | N/A | 1.1E-05 | 1.1E-05 | Hexachlorobenzene | Liver | 1.5E-04 | N/A | 4.0E-06 | 1.5E-04 |
| | | | Hexachlorobutadiene | 3.3E-09 | N/A | 2.6E-07 | 2.6E-07 | Hexachlorobutadiene | Kidney | 5.9E-04 | N/A | 7.6E-06 | 5.9E-04 |
| | | | Hexachloroethane | 5.9E-10 | N/A | 1.6E-08 | 1.7E-08 | Hexachloroethane | Kidney | 1.5E-04 | N/A | 5.3E-07 | 1.5E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-08 | N/A | 2.9E-05 | 2.9E-05 | Indeno(1,2,3-cd)pyrene | N/A | NA | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 5.9E-06 | N/A | 2.8E-08 | 5.9E-06 |
| | | | Pentachlorophenol | 5.0E-09 | N/A | 2.3E-06 | 2.3E-06 | Pentachlorophenol | Kidney/liver | 3.9E-06 | N/A | 3.8E-07 | 4.3E-06 |
| | | | bis(2-Chloroethyl)ether | 4.6E-08 | N/A | 5.8E-07 | 6.3E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 5.9E-10 | N/A | 4.8E-08 | 4.9E-08 | bis(2-Ethylhexyl)phthalate | Liver | 5.9E-06 | N/A | 8.0E-08 | 6.0E-06 |
| | | | n-Nitroso-di-n-propylamine | 2.9E-07 | N/A | 4.3E-07 | 7.3E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.4E-06 | N/A | 7.7E-04 | 7.7E-04 | (Total) | | 8.9E-03 | N/A | 2.1E-05 | 8.9E-03 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 1.3E-07 | N/A | 6.7E-08 | 2.0E-07 | Arsenic | Skin, Vascular | 8.2E-04 | N/A | 4.2E-04 | 1.2E-03 |
| | | | Chromium | 0.0E+00 | N/A | 2.2E-12 | 2.2E-12 | Chromium | Liver | 6.1E-04 | N/A | 0.0E+00 | 6.1E-04 |
| | | | Benzene | 2.5E-11 | N/A | 0.0E+00 | 2.5E-11 | Benzene | Blood | 3.9E-07 | N/A | 3.3E-08 | 4.2E-07 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 2.9E-07 | 2.9E-07 | cis-1,2-Dichloroethene | Blood | 1.2E-07 | N/A | 6.0E-08 | 1.8E-07 |
| | | | Benzo(a)pyrene | 1.3E-07 | N/A | 2.9E-08 | 1.6E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.3E-08 | N/A | 2.9E-08 | 4.2E-08 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.4E-10 | N/A | 3.0E-10 | 4.4E-10 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.4E-09 | N/A | 3.0E-09 | 4.4E-09 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 3.9E-10 | N/A | 2.0E-10 | 5.9E-10 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 2.0E-10 | N/A | 3.3E-10 | 5.3E-10 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 8.0E-09 | N/A | 1.4E-08 | 2.2E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 9.2E-10 | N/A | 0.0E+00 | 9.2E-10 | 3-Nitroaniline | Liver, Blood, CNS | 4.3E-04 | N/A | 7.3E-04 | 1.2E-03 |
| | | | 4-Nitroaniline | 9.2E-10 | N/A | 2.9E-08 | 3.0E-08 | 4-Nitroaniline | Liver, Blood, CNS | 4.3E-05 | N/A | 7.3E-05 | 1.2E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 5.0E-07 | N/A | 8.5E-07 | 1.3E-06 |
| | | | Benzo(a)anthracene | 1.3E-08 | N/A | 2.9E-08 | 4.2E-08 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.3E-07 | N/A | 2.9E-07 | 4.2E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |

TABLE 9.1.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Hexachlorobenzene | 2.9E-08 | N/A | 4.8E-08 | 7.7E-08 | Hexachlorobenzene | Liver | 6.2E-05 | N/A | 1.1E-04 | 1.7E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 1.3E-08 | N/A | 2.9E-08 | 4.2E-08 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Pentachlorophenol | 5.5E-09 | N/A | 3.1E-08 | 3.7E-08 | Pentachlorophenol | Liver/Kidney | 4.3E-06 | N/A | 2.4E-05 | 2.8E-05 |
| | | | bis(2-Chloroethyl)ether | 2.0E-08 | N/A | 3.3E-08 | 5.3E-08 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.2E-07 | N/A | 2.1E-07 | 3.4E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 6.2E-07 | N/A | 1.1E-06 | 1.7E-06 | (Total) | | 2.0E-03 | N/A | 1.4E-03 | 3.3E-03 |

| | |
|---|---|
| Total Risk Across Soil | 9.5E-06 |
| Total Risk Across Surface Water | 7.7E-04 |
| Total Risk Across Sediment | 1.7E-06 |
| Total Risk Across All Media and All Exposure Routes | 7.9E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.6E-02 |

| | |
|---|---|
| Total Skin HI = | 1.6E-02 |
| Total Vascular HI = | 1.6E-02 |
| Total NOAEL HI = | 4.3E-03 |
| Total Blood HI = | 6.0E-03 |
| Total Liver HI = | 9.9E-03 |
| Total Respiratory System HI = | 2.1E-05 |
| Total Kidney HI = | 2.1E-04 |
| Total Whole Body HI = | 2.4E-06 |
| Total CNS HI = | 1.1E-02 |
| Total Body Weight HI = | 5.9E-06 |
| Total Eyes HI = | 4.7E-03 |

TABLE 9.2.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 2.4E-07 | N/A | 3.7E-08 | 2.8E-07 | Arsenic | Skin, vascular | 3.7E-03 | N/A | 5.7E-05 | 3.8E-03 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 1.2E-03 | N/A | 0.0E+00 | 1.2E-03 |
| | | | Benzene | 6.5E-12 | N/A | 0.0E+00 | 6.5E-12 | Benzene | Blood | 2.7E-07 | N/A | 0.0E+00 | 2.7E-07 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 8.2E-08 | N/A | 0.0E+00 | 8.2E-08 |
| | | | Benzo(a)pyrene | 6.1E-08 | N/A | 4.0E-08 | 1.0E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 6.1E-09 | N/A | 4.0E-09 | 1.0E-08 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 6.1E-09 | N/A | 4.0E-09 | 1.0E-08 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 6.1E-11 | N/A | 4.0E-11 | 1.0E-10 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Indeno(1,2,3-c,d)pyrene | 6.1E-09 | N/A | 4.0E-09 | 1.0E-08 | Indeno(1,2,3-c,d)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | benzo(k)fluoranthene | 6.1E-10 | N/A | 4.0E-10 | 1.0E-09 | benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | | | | 0.0E+00 | | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.3E-10 | N/A | 2.2E-10 | 2.2E-10 | 3-Nitroaniline | Liver, Blood, CNS | 5.0E-04 | N/A | 2.5E-04 | 7.6E-04 |
| | | | 4-Nitroaniline | 4.3E-10 | N/A | 2.2E-10 | 2.2E-10 | 4-Nitroaniline | Liver, Blood, CNS | 5.0E-05 | N/A | 2.5E-05 | 7.6E-05 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 5.9E-07 | N/A | 3.0E-07 | 8.9E-07 |
| | | | Dibenzo(a,h)anthracene | 6.1E-08 | N/A | 4.0E-08 | 4.0E-08 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.3E-08 | N/A | 6.8E-09 | 6.8E-09 | Hexachlorobenzene | Liver | 7.4E-05 | N/A | 3.7E-05 | 1.1E-04 |
| | | | bis(2-Chloroethyl)ether | 9.3E-09 | N/A | 4.7E-09 | 4.7E-09 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 5.9E-08 | N/A | 3.0E-08 | 3.0E-08 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 4.7E-07 | N/A | 1.7E-07 | 6.4E-07 | (Total) | | 5.5E-03 | N/A | 3.7E-04 | 5.9E-03 |
| Surface Soil | Air | Emissions from Site 2 Surface Soil | Arsenic | N/A | 3.0E-11 | N/A | 3.0E-11 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chromium | N/A | 2.6E-10 | N/A | 2.6E-10 | Chromium | Respiratory System | N/A | 1.5E-06 | N/A | 1.5E-06 |
| | | | Benzene | N/A | 2.4E-11 | N/A | 2.4E-11 | Benzene | Blood | N/A | 3.4E-06 | N/A | 3.4E-06 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 2.1E-11 | N/A | 2.1E-11 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 5.3E-09 | N/A | 5.3E-09 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | N/A | 5.7E-09 | N/A | 5.7E-09 | (Total) | | N/A | 4.9E-06 | N/A | 4.9E-06 |

TABLE 9.2.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.2E-07 | N/A | 6.4E-08 | 1.8E-07 | Arsenic | Skin/vascular | 1.8E-03 | N/A | 1.2E-07 | 1.8E-03 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 2.2E-04 | N/A | 1.1E-06 | 2.2E-04 |
| | | | Benzene | 2.8E-10 | N/A | 2.7E-09 | 2.9E-09 | Benzene | Blood | 1.2E-05 | N/A | 1.3E-08 | 1.2E-05 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 3.6E-06 | N/A | 2.3E-09 | 3.6E-06 |
| | | | Benzo(a)pyrene | 1.9E-07 | N/A | 3.8E-04 | 3.8E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.9E-08 | N/A | 3.9E-05 | 3.9E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 1.0E-09 | N/A | 6.6E-09 | 7.6E-09 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 5.9E-07 | N/A | 4.5E-10 | 5.9E-07 |
| | | | 1,1,2-Trichloroethane | 2.9E-10 | N/A | 1.5E-09 | 1.8E-09 | 1,1,2-Trichloroethane | Blood | 8.9E-06 | N/A | 5.3E-09 | 8.9E-06 |
| | | | 1,2-Dibromo-3-chloropropane | 7.1E-09 | N/A | 4.4E-08 | 5.1E-08 | 1,2-Dibromo-3-chloropropa | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 4.3E-09 | N/A | 9.3E-09 | 1.4E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 4.6E-10 | N/A | 1.4E-09 | 1.8E-09 | 1,2-Dichloroethane | Liver | 1.2E-06 | N/A | 4.1E-10 | 1.2E-06 |
| | | | 1,2-Dichloropropane | 3.5E-10 | N/A | 2.0E-09 | 2.3E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 3.6E-06 | N/A | 1.0E-09 | 3.6E-06 |
| | | | Bromodichloromethane | 3.2E-10 | N/A | 1.3E-09 | 1.7E-09 | Bromodichloromethane | Kidney | 1.8E-06 | N/A | 8.8E-10 | 1.8E-06 |
| | | | Carbon Tetrachloride | 6.6E-10 | N/A | 9.1E-09 | 9.8E-09 | Carbon Tetrachloride | Liver | 5.1E-05 | N/A | 8.2E-08 | 5.1E-05 |
| | | | Dibromochloromethane | 4.3E-10 | N/A | 1.3E-09 | 1.7E-09 | Dibromochloromethane | Liver | 1.8E-06 | N/A | 8.0E-10 | 1.8E-06 |
| | | | Tetrachloroethene | 2.6E-10 | N/A | 8.0E-09 | 8.3E-09 | Tetrachloroethene | Liver/whole body | 3.6E-06 | N/A | 1.3E-08 | 3.6E-06 |
| | | | Vinyl chloride | 3.7E-09 | N/A | 3.6E-08 | 4.0E-08 | Vinyl chloride | Liver | 1.2E-05 | N/A | 5.0E-09 | 1.2E-05 |
| | | | cis-1,3-Dichloropropene | 5.1E-10 | N/A | 4.1E-09 | 4.6E-09 | cis-1,3-Dichloropropene | Skin | 1.2E-06 | N/A | 4.4E-10 | 1.2E-06 |
| | | | trans-1,3-Dichloropropene | 5.1E-10 | N/A | 4.1E-09 | 4.6E-09 | trans-1,3-Dichloropropene | Skin | 1.2E-06 | N/A | 4.4E-10 | 1.2E-06 |
| | | | 2,4,6-Trichlorophenol | 2.8E-10 | N/A | 1.1E-08 | 1.2E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 8.9E-05 | N/A | 3.3E-08 | 8.9E-05 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.8E-04 | N/A | 4.5E-08 | 1.8E-04 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin | 8.9E-06 | N/A | 1.0E-07 | 9.0E-06 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.1E-08 | N/A | 2.7E-07 | 2.8E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 2.0E-09 | N/A | 3.5E-09 | 5.6E-09 | 3-Nitroaniline | Liver, Blood, CNS | 2.4E-03 | N/A | 4.8E-07 | 2.4E-03 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 7.1E-03 | N/A | 8.8E-06 | 7.1E-03 |
| | | | 4-Nitroaniline | 2.0E-09 | N/A | 3.6E-09 | 5.7E-09 | 4-Nitroaniline | Liver, Blood, CNS | 2.4E-04 | N/A | 4.9E-08 | 2.4E-04 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |

TABLE 9.2.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Benzo(a)anthracene | 1.9E-08 | N/A | 1.8E-05 | 1.8E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.9E-09 | N/A | 3.5E-06 | 3.5E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.9E-10 | N/A | 1.8E-07 | 1.8E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.9E-07 | N/A | 7.6E-04 | 7.6E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 4.5E-05 | N/A | 3.3E-07 | 4.5E-05 |
| | | | Hexachlorobenzene | 4.1E-08 | N/A | 1.6E-05 | 1.6E-05 | Hexachlorobenzene | Liver | 2.2E-04 | N/A | 1.0E-05 | 2.3E-04 |
| | | | Hexachlorobutadiene | 2.0E-09 | N/A | 3.3E-07 | 3.3E-07 | Hexachlorobutadiene | Kidney | 8.9E-04 | N/A | 1.7E-05 | 9.1E-04 |
| | | | Hexachloroethane | 3.6E-10 | N/A | 1.7E-08 | 1.8E-08 | Hexachloroethane | Kidney | 1.8E-04 | N/A | 1.0E-06 | 1.8E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 1.9E-08 | N/A | 4.8E-05 | 4.8E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 8.9E-06 | N/A | 3.6E-08 | 8.9E-06 |
| | | | Pentachlorophenol | 3.1E-09 | N/A | 3.5E-06 | 3.5E-06 | Pentachlorophenol | Kidney/liver | 5.9E-06 | N/A | 1.0E-06 | 7.0E-06 |
| | | | bis(2-Chloroethyl)ether | 2.8E-08 | N/A | 4.2E-07 | 4.5E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 3.6E-10 | N/A | 7.4E-08 | 7.4E-08 | bis(2-Ethylhexyl)phthalate | Liver | 8.9E-06 | N/A | 2.2E-07 | 9.1E-06 |
| | | | n-Nitroso-di-n-propylamine | 1.8E-07 | N/A | 3.0E-07 | 4.8E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 8.3E-07 | N/A | 1.3E-03 | 1.3E-03 | (Total) | | 1.3E-02 | N/A | 4.1E-05 | 1.4E-02 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.5E-07 | N/A | 4.5E-08 | 2.9E-07 | Arsenic | Skin/Vascular | 3.8E-03 | N/A | 7.0E-04 | 4.5E-03 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 2.8E-03 | N/A | 0.0E+00 | 2.8E-03 |
| | | | Benzene | 4.7E-11 | N/A | 1.4E-12 | 4.9E-11 | Benzene | Blood | 1.8E-06 | N/A | 5.5E-08 | 1.9E-06 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 5.5E-07 | N/A | 9.9E-08 | 6.5E-07 |
| | | | Benzo(a)pyrene | 2.4E-07 | N/A | 1.9E-07 | 4.3E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 2.4E-08 | N/A | 1.9E-08 | 4.3E-08 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 2.6E-10 | N/A | 0.0E+00 | 2.6E-10 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 2.6E-09 | N/A | 0.0E+00 | 2.6E-09 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.3E-10 | N/A | 1.3E-10 | 8.6E-10 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 3.7E-10 | N/A | 2.2E-10 | 5.9E-10 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.5E-08 | N/A | 9.1E-09 | 2.4E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.7E-09 | N/A | 1.0E-09 | 2.8E-09 | 3-Nitroaniline | Liver, Blood, CNS | 2.0E-03 | N/A | 1.2E-03 | 3.2E-03 |
| | | | 4-Nitroaniline | 1.7E-09 | N/A | 1.0E-09 | 2.8E-09 | 4-Nitroaniline | Liver, Blood, CNS | 2.0E-04 | N/A | 1.2E-04 | 3.2E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.3E-06 | N/A | 1.4E-06 | 3.7E-06 |
| | | | Benzo(a)anthracene | 2.4E-08 | N/A | 1.9E-08 | 4.3E-08 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |

TABLE 9.2.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Dibenz(a,h)anthracene | 2.4E-07 | N/A | 1.9E-07 | 4.3E-07 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 5.3E-08 | N/A | 3.2E-08 | 8.5E-08 | Hexachlorobenzene | Liver | 2.9E-04 | N/A | 1.8E-04 | 4.7E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 2.4E-08 | N/A | 1.9E-08 | 4.3E-08 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Pentachlorophenol | 1.0E-08 | N/A | 2.1E-08 | 3.1E-08 | Pentachlorophenol | Liver/Kidney | 2.0E-05 | N/A | 4.0E-05 | 6.0E-05 |
| | | | bis(2-Chloroethyl)ether | 3.7E-08 | N/A | 2.2E-08 | 5.9E-08 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 2.3E-07 | N/A | 1.4E-07 | 3.7E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.2E-06 | N/A | 7.1E-07 | 1.9E-06 | (Total) | | 9.2E-03 | N/A | 2.3E-03 | 1.1E-02 |

| | |
|---|---|
| Total Risk Across Soil | 6.4E-07 |
| Total Risk Across Surface Water | 1.3E-03 |
| Total Risk Across Sediment | 1.9E-06 |
| Total Risk Across All Media and All Exposure Routes | 1.3E-03 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.1E-02 |

| | |
|---|---|
| Total Skin HI = | 1.0E-02 |
| Total Vascular HI = | 1.0E-02 |
| Total NOAEL HI = | 1.4E-03 |
| Total Blood HI = | 6.7E-03 |
| Total Liver HI = | 1.1E-02 |
| Total Respiratory System HI = | 1.5E-06 |
| Total Kidney HI = | 2.9E-04 |
| Total Whole Body HI = | 3.6E-06 |
| Total CNS HI = | 1.4E-02 |
| Total Body Weight HI = | 8.9E-06 |
| Total Eyes HI = | 7.1E-03 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Chromium | 0.0E+00 | N/A | N/A | 0.0E+00 | Chromium | NOAEL | 2.3E-02 | N/A | N/A | 2.3E-02 |
| | | | Benzene | 3.3E-07 | N/A | N/A | 3.3E-07 | Benzene | Blood | 5.8E-03 | N/A | N/A | 5.8E-03 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | N/A | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 2.9E-03 | N/A | N/A | 2.9E-03 |
| | | | Arsenic | 2.1E-05 | N/A | N/A | 2.1E-05 | Arsenic | Skin, Vascular | 1.3E-01 | N/A | N/A | 1.3E-01 |
| | | | Benzo(a)pyrene | 1.8E-04 | N/A | N/A | 1.8E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.8E-05 | N/A | N/A | 1.8E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 9.4E-07 | N/A | N/A | 9.4E-07 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 2.3E-04 | N/A | N/A | 2.3E-04 |
| | | | 1,1,2-Trichloroethane | 2.7E-07 | N/A | N/A | 2.7E-07 | 1,1,2-Trichloroethane | Blood | 3.4E-03 | N/A | N/A | 3.4E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 6.6E-06 | N/A | N/A | 6.6E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dibromoethane | 4.0E-06 | N/A | N/A | 4.0E-06 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dichloroethane | 4.3E-07 | N/A | N/A | 4.3E-07 | 1,2-Dichloroethane | Liver | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | 1,2-Dichloropropane | 3.2E-07 | N/A | N/A | 3.2E-07 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | 1,4-Dichlorobenzene | 1.1E-07 | N/A | N/A | 1.1E-07 | 1,4-Dichlorobenzene | Liver | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | Bromodichloromethane | 2.9E-07 | N/A | N/A | 2.9E-07 | Bromodichloromethane | Kidney | 6.8E-04 | N/A | N/A | 6.8E-04 |
| | | | Bromoform | 3.7E-08 | N/A | N/A | 3.7E-08 | Bromoform | Liver | 6.8E-04 | N/A | N/A | 6.8E-04 |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | Bromomethane | Gastrointestinal | 9.8E-03 | N/A | N/A | 9.8E-03 |
| | | | Carbon tetrachloride | 6.1E-07 | N/A | N/A | 6.1E-07 | Carbon tetrachloride | Liver | 2.0E-02 | N/A | N/A | 2.0E-02 |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | Chloroform | Liver | 1.4E-03 | N/A | N/A | 1.4E-03 |
| | | | Dibromochloromethane | 3.9E-07 | N/A | N/A | 3.9E-07 | Dibromochloromethane | Liver | 6.8E-04 | N/A | N/A | 6.8E-04 |
| | | | Tetrachloroethene | 2.4E-07 | N/A | N/A | 2.4E-07 | Tetrachloroethene | Liver, Whole Body | 1.4E-03 | N/A | N/A | 1.4E-03 |
| | | | Vinyl chloride | 3.4E-06 | N/A | N/A | 3.4E-06 | Vinyl chloride | Liver | 4.6E-03 | N/A | N/A | 4.6E-03 |
| | | | cis-1,3-Dichloropropene | 4.7E-07 | N/A | N/A | 4.7E-07 | cis-1,3-Dichloropropene | Chronic Irritation | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | trans-1,3-Dichloropropene | 4.7E-07 | N/A | N/A | 4.7E-07 | trans-1,3-Dichloropropene | Chronic Irritation | 4.6E-04 | N/A | N/A | 4.6E-04 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 2.7E-07 | N/A | N/A | 2.7E-07 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 1.4E-01 | N/A | N/A | 1.4E-01 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 7.0E-02 | N/A | N/A | 7.0E-02 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Chlorophenol | Reproduction | 1.4E-02 | N/A | N/A | 1.4E-02 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.1E-05 | N/A | N/A | 1.1E-05 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3-Nitroaniline | 1.9E-06 | N/A | N/A | 1.9E-06 | 3-Nitroaniline | Liver, Blood, CNS | 9.4E-01 | N/A | N/A | 9.4E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 2.8E+00 | N/A | N/A | 2.8E+00 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4-Methylphenol | CNS, Resp., Whole Body | 1.4E-02 | N/A | N/A | 1.4E-02 |
| | | | 4-Nitroaniline | 1.9E-06 | N/A | N/A | 1.9E-06 | 4-Nitroaniline | Liver, Blood, CNS | 9.4E-02 | N/A | N/A | 9.4E-02 |
| | | | Benzo(a)anthracene | 1.8E-05 | N/A | N/A | 1.8E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.8E-06 | N/A | N/A | 1.8E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Chrysene | 1.8E-07 | N/A | N/A | 1.8E-07 | Chrysene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.8E-04 | N/A | N/A | 1.8E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | Dibenzofuran | Kidney | 1.8E-02 | N/A | N/A | 1.8E-02 |
| | | | Hexachlorobenzene | 3.9E-05 | N/A | N/A | 3.9E-05 | Hexachlorobenzene | Liver | 8.8E-02 | N/A | N/A | 8.8E-02 |
| | | | Hexachlorobutadiene | 1.9E-06 | N/A | N/A | 1.9E-06 | Hexachlorobutadiene | Kidney | 3.5E-01 | N/A | N/A | 3.5E-01 |
| | | | Hexachloroethane | 3.4E-07 | N/A | N/A | 3.4E-07 | Hexachloroethane | Kidney | 7.0E-02 | N/A | N/A | 7.0E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 1.8E-05 | N/A | N/A | 1.8E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | Naphthalene | Decreased Body Weight | 3.5E-03 | N/A | N/A | 3.5E-03 |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 1.4E-01 | N/A | N/A | 1.4E-01 |
| | | | Pentachlorophenol | 2.9E-06 | N/A | N/A | 2.9E-06 | Pentachlorophenol | Liver, Kidney | 2.3E-03 | N/A | N/A | 2.3E-03 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 2.7E-05 | N/A | N/A | 2.7E-05 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 3.4E-07 | N/A | N/A | 3.4E-07 | bis(2-Ethylhexyl)phthalate | Liver | 3.5E-03 | N/A | N/A | 3.5E-03 |
| | | | n-Nitroso-di-n-propylamine | 1.7E-04 | N/A | N/A | 1.7E-04 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | (Total) | 7.0E-04 | N/A | N/A | 7.0E-04 | (Total) | (Total) | 5.0E+00 | N/A | N/A | 5.0E+00 |
| Groundwater | Air | Shower | Benzene | N/A | 1.7E-07 | N/A | 1.7E-07 | Benzene | Blood | N/A | 1.0E-02 | N/A | 1.0E-02 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | N/A | 9.4E-07 | N/A | 9.4E-07 | 1,1,2,2-Tetrachloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,1,2-Trichloroethane | N/A | 2.6E-07 | N/A | 2.6E-07 | 1,1,2-Trichloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,2-Dibromo-3-chloropropane | N/A | 1.1E-08 | N/A | 1.1E-08 | 1,2-Dibromo-3-chloropropane | Testicles | N/A | 2.4E-01 | N/A | 2.4E-01 |
| | | | 1,2-Dibromoethane | N/A | 3.6E-06 | N/A | 3.6E-06 | 1,2-Dibromoethane | Sperm | N/A | 2.4E-01 | N/A | 2.4E-01 |
| | | | 1,2-Dichloroethane | N/A | 4.3E-07 | N/A | 4.3E-07 | 1,2-Dichloroethane | Liver, Kidney | N/A | 9.8E-03 | N/A | 9.8E-03 |
| | | | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,2-Dichloropropane | Nose | N/A | 1.2E-02 | N/A | 1.2E-02 |
| | | | 1,3-Dichlorobenzene | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,3-Dichlorobenzene | Liver, Kidney | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,4-Dichlorobenzene | N/A | 1.0E-07 | N/A | 1.0E-07 | 1,4-Dichlorobenzene | Liver, Kidney | N/A | 6.0E-05 | N/A | 6.0E-05 |
| | | | Bromodichloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromodichloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromoform | N/A | 1.8E-08 | N/A | 1.8E-08 | Bromoform | Liver | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromomethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromomethane | Nose | N/A | 9.8E-03 | N/A | 9.8E-03 |
| | | | Carbon tetrachloride | N/A | 2.5E-07 | N/A | 2.5E-07 | Carbon tetrachloride | Liver | N/A | 2.4E-02 | N/A | 2.4E-02 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Chloroform | N/A | 3.8E-07 | N/A | 3.8E-07 | Chloroform | Liver, Kidney | N/A | 1.6E-01 | N/A | 1.6E-01 |
| | | | Dibromochloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Dibromochloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Tetrachloroethene | N/A | 4.7E-08 | N/A | 4.7E-08 | Tetrachloroethene | Liver, Whole Body | N/A | 9.8E-05 | N/A | 9.8E-05 |
| | | | Vinyl chloride | N/A | 7.0E-08 | N/A | 7.0E-08 | Vinyl chloride | Liver | N/A | 4.9E-04 | N/A | 4.9E-04 |
| | | | cis-1,3-Dichloropropene | N/A | 4.7E-08 | N/A | 4.7E-08 | cis-1,3-Dichloropropene | Nasal Mucosa | N/A | 2.4E-03 | N/A | 2.4E-03 |
| | | | trans-1,3-Dichloropropene | N/A | 4.7E-08 | N/A | 4.7E-08 | trans-1,3-Dichloropropene | Nasal Mucosa | N/A | 2.4E-03 | N/A | 2.4E-03 |
| | | | (Total) | N/A | 6.3E-06 | N/A | 6.3E-06 | (Total) | | N/A | 7.1E-01 | N/A | 7.1E-01 |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 2.9E-06 | N/A | 1.1E-06 | 4.0E-06 | Arsenic | Skin, Vascular | 1.9E-02 | N/A | 7.4E-04 | 1.9E-02 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | Liver | 5.8E-03 | N/A | 0.0E+00 | 5.8E-03 |
| | | | Benzene | 7.7E-11 | N/A | 0.0E+00 | 7.7E-11 | Benzene | Blood | 1.4E-06 | N/A | 0.0E+00 | 1.4E-06 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 4.1E-07 | N/A | 0.0E+00 | 4.1E-07 |
| | | | Benzo(a)pyrene | 7.4E-07 | N/A | 1.3E-06 | 2.0E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 7.4E-08 | N/A | 1.3E-07 | 2.0E-07 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 7.4E-08 | N/A | 1.3E-07 | 2.0E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 7.4E-10 | N/A | 1.3E-09 | 2.0E-09 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Indeno(1,2,3-c,d)pyrene | 7.4E-08 | N/A | 1.3E-07 | 2.0E-07 | Indeno(1,2,3-c,d)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | benzo(k)fluoranthene | 7.4E-09 | N/A | 1.3E-08 | 2.0E-08 | benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 5.2E-09 | N/A | 6.8E-09 | 1.2E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.5E-03 | N/A | 3.3E-03 | 5.8E-03 |
| | | | 4-Nitroaniline | 5.2E-09 | N/A | 6.8E-09 | 1.2E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.5E-04 | N/A | 3.3E-04 | 5.8E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.9E-06 | N/A | 3.9E-06 | 6.8E-06 |
| | | | Dibenzo(a,h)anthracene | 7.4E-07 | N/A | 1.3E-06 | 2.0E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.6E-07 | N/A | 2.1E-07 | 3.7E-07 | Hexachlorobenzene | Liver | 3.7E-04 | N/A | 4.9E-04 | 8.5E-04 |
| | | | bis(2-Chloroethyl)ether | 1.1E-07 | N/A | 1.5E-07 | 2.6E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 7.1E-07 | N/A | 9.3E-07 | 1.6E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 5.6E-06 | N/A | 5.4E-06 | 1.1E-05 | (Total) | | 2.8E-02 | N/A | 4.9E-03 | 3.3E-02 |
| Surface Soil | Air | Emissions from Site 2 Surface Soil | Arsenic | N/A | 4.4E-09 | N/A | 4.4E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chromium | N/A | 3.7E-08 | N/A | 3.7E-08 | Chromium | Respiratory System | N/A | 8.8E-05 | N/A | 8.8E-05 |
| | | | Benzene | N/A | 3.5E-09 | N/A | 3.5E-09 | Benzene | Blood | N/A | 2.0E-04 | N/A | 2.0E-04 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 3.0E-09 | N/A | 3.0E-09 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | NOAEL | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 7.7E-07 | N/A | 7.7E-07 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | N/A | 8.1E-07 | N/A | 8.1E-07 | (Total) | | N/A | 2.9E-04 | N/A | 2.9E-04 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 3.2E-06 | N/A | 5.5E-06 | 8.7E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 5.1E-07 | N/A | 8.8E-07 | 1.4E-06 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 7.5E-08 | N/A | 1.3E-07 | 2.0E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 7.5E-10 | N/A | 1.3E-09 | 2.0E-09 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 7.5E-09 | N/A | 1.3E-08 | 2.0E-08 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Arsenic | 2.7E-06 | N/A | 1.1E-06 | 3.7E-06 | Arsenic | Skin, Vascular | 1.7E-02 | N/A | 6.9E-03 | 2.4E-02 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 6.3E-03 | N/A | 0.0E+00 | 6.3E-03 |
| | | | Benzene | 7.7E-11 | N/A | 0.0E+00 | 7.7E-11 | Benzene | Blood | 1.4E-06 | N/A | 0.0E+00 | 1.4E-06 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | N/A | 4.1E-07 | N/A | 0.0E+00 | 4.1E-07 |
| | | | 1,2-Dibromoethane | 1.2E-09 | N/A | 4.7E-10 | 1.7E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 4.7E-09 | N/A | 6.2E-09 | 1.1E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.3E-03 | N/A | 3.0E-03 | 5.3E-03 |
| | | | 4-Nitroaniline | 4.7E-09 | N/A | 6.2E-09 | 1.1E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.3E-04 | N/A | 3.0E-04 | 5.3E-04 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.7E-06 | N/A | 3.6E-06 | 6.4E-06 |
| | | | Dibenzo(a,h,)anthracene | 6.9E-07 | N/A | 1.2E-06 | 1.9E-06 | Dibenzo(a,h,)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 1.5E-07 | N/A | 2.0E-07 | 3.5E-07 | Hexachlorobenzene | Liver | 3.4E-04 | N/A | 4.5E-04 | 7.9E-04 |
| | | | Indeno(1,2,3-cd)pyrene | 1.2E-07 | N/A | 2.1E-07 | 3.4E-07 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 1.0E-07 | N/A | 1.4E-07 | 2.4E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 6.6E-07 | N/A | 8.7E-07 | 1.5E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 8.2E-06 | N/A | 1.0E-05 | 1.8E-05 | (Total) | | 2.7E-02 | N/A | 1.1E-02 | 3.7E-02 |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 2 | Arsenic | N/A | 4.1E-08 | N/A | 4.1E-08 | Arsenic | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 1.0E-07 | N/A | 1.0E-07 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 8.5E-08 | N/A | 8.5E-08 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Chromium | N/A | 4.0E-07 | N/A | 4.0E-07 | Chromium | Respiratory System | N/A | 9.5E-05 | NA | 9.5E-05 |
| | | | Benzene | N/A | 3.5E-09 | N/A | 3.5E-09 | Benzene | Blood | N/A | 2.0E-04 | NA | 2.0E-04 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Acetophone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophone | NOAEL | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 6.3E-11 | N/A | 6.3E-11 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | (Total) | N/A | 6.3E-07 | N/A | 6.3E-07 | (Total) | | N/A | 3.0E-04 | N/A | 3.0E-04 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.8E-07 | N/A | 1.1E-07 | 2.9E-07 | Arsenic | Skin, Vascular | 1.2E-01 | N/A | 2.9E-05 | 1.2E-01 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | Liver | 1.4E-02 | N/A | 2.8E-04 | 1.4E-02 |
| | | | Benzene | 4.3E-10 | N/A | 4.5E-09 | 4.9E-09 | Benzene | Blood | 7.6E-04 | N/A | 3.3E-06 | 7.7E-04 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | N/A | 2.3E-04 | N/A | 5.6E-07 | 2.3E-04 |
| | | | Benzo(a)pyrene | 2.9E-07 | N/A | 6.4E-04 | 6.4E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 2.9E-08 | N/A | 6.6E-05 | 6.6E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 1.6E-09 | N/A | 1.1E-08 | 1.3E-08 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 3.8E-05 | N/A | 1.1E-07 | 3.8E-05 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 1,1,2-Trichloroethane | 4.5E-10 | N/A | 2.5E-09 | 2.9E-09 | 1,1,2-Trichloroethane | Blood | 5.7E-04 | N/A | 1.3E-06 | 5.7E-04 |
| | | | 1,2-Dibromo-3-chloropropane | 1.1E-08 | N/A | 7.3E-08 | 8.4E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 6.7E-09 | N/A | 1.6E-08 | 2.2E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 7.1E-10 | N/A | 2.3E-09 | 3.0E-09 | 1,2-Dichloroethane | Liver | 7.6E-05 | N/A | 1.0E-07 | 7.6E-05 |
| | | | 1,2-Dichloropropane | 5.3E-10 | N/A | 3.4E-09 | 3.9E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 2.3E-04 | N/A | 2.6E-07 | 2.3E-04 |
| | | | Bromodichloromethane | 4.9E-10 | N/A | 2.2E-09 | 2.7E-09 | Bromodichloromethane | Kidney | 1.1E-04 | N/A | 2.2E-07 | 1.1E-04 |
| | | | Carbon Tetrachloride | 1.0E-09 | N/A | 1.5E-08 | 1.6E-08 | Carbon Tetrachloride | Liver | 3.3E-03 | N/A | 2.1E-05 | 3.3E-03 |
| | | | Dibromochloromethane | 6.6E-10 | N/A | 2.2E-09 | 2.9E-09 | Dibromochloromethane | Liver | 1.1E-04 | N/A | 2.0E-07 | 1.1E-04 |
| | | | Tetrachloroethene | 4.1E-10 | N/A | 1.3E-08 | 1.4E-08 | Tetrachloroethene | Liver/whole body | 2.3E-04 | N/A | 3.2E-06 | 2.3E-04 |
| | | | Vinyl chloride | 5.7E-09 | N/A | 2.2E-08 | 2.8E-08 | Vinyl chloride | Liver | 7.6E-04 | N/A | 1.3E-06 | 7.6E-04 |
| | | | cis-1,3-Dichloropropene | 7.9E-10 | N/A | 2.7E-09 | 3.5E-09 | cis-1,3-Dichloropropene | Skin | 7.6E-05 | N/A | 1.1E-07 | 7.6E-05 |
| | | | trans-1,3-Dichloropropene | 7.9E-10 | N/A | 2.7E-09 | 3.5E-09 | trans-1,3-Dichloropropene | Skin | 7.6E-05 | N/A | 5.5E-07 | 7.7E-05 |
| | | | 2,4,6-Trichlorophenol | 4.3E-10 | N/A | 1.9E-08 | 1.9E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 5.7E-03 | N/A | 8.3E-06 | 5.7E-03 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.1E-02 | N/A | 1.1E-05 | 1.1E-02 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin | 5.7E-04 | N/A | 2.6E-05 | 6.0E-04 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.8E-08 | N/A | 4.5E-07 | 4.7E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 3.1E-09 | N/A | 6.0E-09 | 9.1E-09 | 3-Nitroaniline | Liver, Blood, CNS | 1.5E-01 | N/A | 1.2E-04 | 1.5E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 4.6E-01 | N/A | 2.2E-03 | 4.6E-01 |
| | | | 4-Nitroaniline | 3.1E-09 | N/A | 6.1E-09 | 9.3E-09 | 4-Nitroaniline | Liver, Blood, CNS | 1.5E-02 | N/A | 1.2E-05 | 1.5E-02 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 2.9E-08 | N/A | 3.1E-05 | 3.1E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 2.9E-09 | N/A | 5.9E-06 | 5.9E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 2.9E-10 | N/A | 3.1E-07 | 3.1E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 2.9E-07 | N/A | 1.3E-03 | 1.3E-03 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 2.9E-03 | N/A | 8.3E-05 | 2.9E-03 |
| | | | Hexachlorobenzene | 6.3E-08 | N/A | 2.7E-05 | 2.7E-05 | Hexachlorobenzene | Liver | 1.4E-02 | N/A | 2.5E-03 | 1.7E-02 |
| | | | Hexachlorobutadiene | 3.1E-09 | N/A | 5.5E-07 | 5.5E-07 | Hexachlorobutadiene | Kidney | 5.7E-02 | N/A | 4.3E-03 | 6.2E-02 |
| | | | Hexachloroethane | 5.5E-10 | N/A | 2.9E-08 | 2.9E-08 | Hexachloroethane | Kidney | 1.1E-02 | N/A | 2.5E-04 | 1.2E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 2.9E-08 | N/A | 8.0E-05 | 8.0E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 5.7E-04 | N/A | 9.1E-06 | 5.8E-04 |
| | | | Pentachlorophenol | 4.7E-09 | N/A | 5.9E-06 | 5.9E-06 | Pentachlorophenol | Kidney/liver | 3.8E-04 | N/A | 2.6E-04 | 6.4E-04 |
| | | | bis(2-Chloroethyl)ether | 4.3E-08 | N/A | 7.1E-07 | 7.5E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 5.5E-10 | N/A | 1.2E-07 | 1.2E-07 | bis(2-Ethylhexyl)phthalate | Liver | 5.7E-04 | N/A | 5.4E-05 | 6.3E-04 |
| | | | n-Nitroso-di-n-propylamine | 2.7E-07 | N/A | 5.1E-07 | 7.8E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.3E-06 | N/A | 2.1E-03 | 2.1E-03 | (Total) | | 8.7E-01 | N/A | 1.0E-02 | 8.8E-01 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.8E-07 | N/A | 2.2E-07 | 6.0E-07 | Arsenic | Skin, Vascular | 2.5E-03 | N/A | 1.4E-03 | 3.9E-03 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | Liver | 1.8E-03 | N/A | 0.0E+00 | 1.8E-03 |
| | | | Benzene | 7.3E-11 | N/A | 7.0E-12 | 8.0E-11 | Benzene | Blood | 1.2E-06 | N/A | 1.1E-07 | 1.3E-06 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 3.5E-07 | N/A | 2.0E-07 | 5.6E-07 |
| | | | Benzo(a)pyrene | 3.7E-07 | N/A | 9.4E-07 | 1.3E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.7E-08 | N/A | 9.4E-08 | 1.3E-07 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 4.0E-10 | N/A | 9.9E-10 | 1.4E-09 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 4.0E-09 | N/A | 9.9E-09 | 1.4E-08 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 1.1E-09 | N/A | 6.5E-10 | 1.8E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 5.6E-10 | N/A | 1.1E-09 | 1.6E-09 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.3E-08 | N/A | 4.4E-08 | 6.7E-08 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 2.7E-09 | N/A | 5.1E-09 | 7.8E-09 | 3-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 4-Nitroaniline | 2.7E-09 | N/A | 5.1E-09 | 7.8E-09 | 4-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 1.3E-03 | N/A | 2.5E-03 | 3.8E-03 |
| | | | Benzo(a)anthracene | 3.7E-08 | N/A | 9.4E-08 | 1.3E-07 | Benzo(a)anthracene | N/A | 1.3E-04 | N/A | 2.5E-04 | 3.8E-04 |
| | | | Dibenz(a,h)anthracene | 3.7E-07 | N/A | 9.4E-07 | 1.3E-06 | Dibenz(a,h)anthracene | N/A | 1.5E-06 | N/A | 2.9E-06 | 4.4E-06 |
| | | | Hexachlorobenzene | 8.2E-08 | N/A | 3.7E-05 | 3.7E-05 | Hexachlorobenzene | Liver | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Indeno(1,2,3-cd)pyrene | 3.7E-08 | N/A | 9.4E-08 | 1.3E-07 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Pentachlorophenol | 1.6E-08 | N/A | 1.0E-07 | 1.2E-07 | Pentachlorophenol | Liver/Kidney | 1.9E-04 | N/A | 3.6E-04 | 5.5E-04 |
| | | | bis(2-Chloroethyl)ether | 5.6E-08 | N/A | 1.1E-07 | 1.6E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 3.6E-07 | N/A | 6.9E-07 | 1.0E-06 | n-Nitroso-di-n-propylamine | N/A | 1.3E-05 | N/A | 8.1E-05 | 9.4E-05 |
| | | | (Total) | 1.8E-06 | N/A | 4.1E-05 | 4.2E-05 | (Total) | | 5.9E-03 | N/A | 4.6E-03 | 1.1E-02 |

| | |
|---|---|
| Total Risk Across Groundwater | 7.1E-04 |
| Total Risk Across Surface Soil | 1.2E-05 |
| Total Risk Across Subsurface Soil | 1.9E-05 |
| Total Risk Across Surface Water | 2.1E-03 |
| Total Risk Across Sediment | 4.2E-05 |
| Total Risk Across All Media and All Exposure Routes | 2.9E-03 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 5.7E+00 |

TABLE 9.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | | | | | | | | | | Total Skin HI = | 3.0E-01 |
| | | | | | | | | | | | | Total Vascular HI = | 3.0E-01 |
| | | | | | | | | | | | | Total Liver HI = | 6.9E-01 |
| | | | | | | | | | | | | Total Whole Body HI = | 9.8E-02 |
| | | | | | | | | | | | | Total Blood HI = | 4.3E-01 |
| | | | | | | | | | | | | Total Kidney HI = | 9.1E-01 |
| | | | | | | | | | | | | Total GI HI = | 9.8E-03 |
| | | | | | | | | | | | | Total Chronic Irritation HI = | 9.1E-04 |
| | | | | | | | | | | | | Total Eyes HI = | 3.4E+00 |
| | | | | | | | | | | | | Total CNS HI = | 3.6E+00 |
| | | | | | | | | | | | | Total Reproduction HI = | 1.4E-02 |
| | | | | | | | | | | | | Total Bile Duct HI = | 8.2E-02 |
| | | | | | | | | | | | | Total Body Weight HI = | 4.1E-03 |
| | | | | | | | | | | | | Total Adrenal HI = | 1.4E-01 |
| | | | | | | | | | | | | Total Testicles HI = | 2.4E-01 |
| | | | | | | | | | | | | Total Sperm HI = | 2.4E-01 |
| | | | | | | | | | | | | Total Nasal HI = | 2.7E-02 |
| | | | | | | | | | | | | Total Respiratory Sustem HI = | 1.4E-02 |
| | | | | | | | | | | | | Total NOAEL HI = | 3.3E-02 |

TABLE 9.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 5.4E-02 | N/A | 1.4E-02 | 6.8E-02 |
| | | | Benzene | 1.9E-07 | N/A | 2.7E-08 | 2.2E-07 | Benzene | Blood | 1.3E-02 | N/A | 1.9E-03 | 1.5E-02 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 6.8E-03 | N/A | 5.6E-04 | 7.4E-03 |
| | | | Arsenic | 1.2E-05 | N/A | 9.5E-03 | 9.6E-03 | Arsenic | Skin, Vascular | 8.0E-03 | N/A | 7.9E-04 | 8.8E-03 |
| | | | Benzo(a)pyrene | 1.0E-04 | N/A | 9.9E-04 | 1.1E-03 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.0E-05 | N/A | 0.0E+00 | 1.0E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 5.5E-07 | N/A | 1.5E-08 | 5.6E-07 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 5.3E-04 | N/A | 8.2E-05 | 6.1E-04 |
| | | | 1,1,2-Trichloroethane | 1.6E-07 | N/A | 1.5E-08 | 1.7E-07 | 1,1,2-Trichloroethane | Blood | 8.0E-03 | N/A | 7.9E-04 | 8.8E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 3.8E-06 | N/A | 7.6E-07 | 4.6E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 2.3E-06 | N/A | 1.3E-07 | 2.5E-06 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 2.5E-07 | N/A | 1.1E-08 | 2.6E-07 | 1,2-Dichloroethane | Liver | 1.1E-03 | N/A | 4.9E-05 | 1.1E-03 |
| | | | 1,2-Dichloropropane | 1.9E-07 | N/A | 1.8E-08 | 2.0E-07 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 1.1E-03 | N/A | 1.3E-03 | 2.3E-03 |
| | | | 1,4-Dichlorobenzene | 6.6E-08 | N/A | 5.4E-08 | 1.2E-07 | 1,4-Dichlorobenzene | Liver | 1.1E-03 | N/A | 8.8E-04 | 1.9E-03 |
| | | | Bromodichloromethane | 1.7E-07 | N/A | 1.6E-08 | 1.9E-07 | Bromodichloromethane | Kidney | 1.6E-03 | N/A | 1.5E-04 | 1.8E-03 |
| | | | Bromoform | 2.2E-08 | N/A | 2.9E-09 | 2.5E-08 | Bromoform | Liver | 1.6E-03 | N/A | 2.1E-04 | 1.8E-03 |
| | | | Bromomethane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Bromomethane | Gastrointestinal | 2.3E-02 | N/A | 6.7E-04 | 2.4E-02 |
| | | | Carbon tetrachloride | 3.6E-07 | N/A | 1.1E-07 | 4.7E-07 | Carbon tetrachloride | Liver | 4.6E-02 | N/A | 1.5E-02 | 6.0E-02 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 3.2E-03 | N/A | 2.9E-04 | 3.5E-03 |
| | | | Dibromochloromethane | 2.3E-07 | N/A | 2.0E-08 | 2.5E-07 | Dibromochloromethane | Liver | 1.6E-03 | N/A | 1.4E-04 | 1.7E-03 |
| | | | Tetrachloroethene | 1.4E-07 | N/A | 1.2E-07 | 2.6E-07 | Tetrachloroethene | Liver, Whole Body | 3.2E-03 | N/A | 2.6E-03 | 5.8E-03 |
| | | | Vinyl chloride | 3.8E-06 | N/A | 1.7E-07 | 4.0E-06 | Vinyl chloride | Liver | 1.1E-02 | N/A | 4.8E-04 | 1.1E-02 |
| | | | cis-1,3-Dichloropropene | 2.7E-07 | N/A | 1.5E-08 | 2.9E-07 | cis-1,3-Dichloropropene | Chronic Irritation | 1.1E-03 | N/A | 5.6E-05 | 1.1E-03 |
| | | | trans-1,3-Dichloropropene | 2.7E-07 | N/A | 1.5E-08 | 2.9E-07 | trans-1,3-Dichloropropene | Chronic Irritation | 1.1E-03 | N/A | 5.6E-05 | 1.1E-03 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 1.5E-07 | N/A | 1.9E-07 | 3.5E-07 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 3.3E-01 | N/A | 2.6E-02 | 3.6E-01 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.6E-01 | N/A | 8.9E-03 | 1.7E-01 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Chlorophenol | Reproduction | 3.3E-02 | N/A | 4.0E-03 | 3.7E-02 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 6.3E-06 | N/A | 5.3E-06 | 1.2E-05 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |

TABLE 9.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3-Nitroaniline | 1.1E-06 | N/A | 3.8E-08 | 1.2E-06 | 3-Nitroaniline | Liver, Blood, CNS | 2.2E+00 | N/A | 0.0E+00 | 2.2E+00 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 6.6E+00 | N/A | 0.0E+00 | 6.6E+00 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4-Methylphenol | CNS, Resp., Whole Body | 3.3E-02 | N/A | 5.3E-04 | 3.3E-02 |
| | | | 4-Nitroaniline | 1.1E-06 | N/A | 4.0E-08 | 1.2E-06 | 4-Nitroaniline | Liver, Blood, CNS | 2.2E-01 | N/A | 0.0E+00 | 2.2E-01 |
| | | | Benzo(a)anthracene | 1.0E-05 | N/A | 4.5E-04 | 4.6E-04 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.0E-06 | N/A | 8.9E-05 | 9.0E-05 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.0E-07 | N/A | 4.5E-06 | 4.6E-06 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.0E-04 | N/A | 1.9E-02 | 2.0E-02 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 4.1E-02 | N/A | 7.6E-02 | 1.2E-01 |
| | | | Hexachlorobenzene | 2.3E-05 | N/A | 3.8E-04 | 4.0E-04 | Hexachlorobenzene | Liver | 2.1E-01 | N/A | 3.5E+00 | 3.7E+00 |
| | | | Hexachlorobutadiene | 1.1E-06 | N/A | 7.3E-06 | 8.4E-06 | Hexachlorobutadiene | Kidney | 8.2E-01 | N/A | 5.5E+00 | 6.3E+00 |
| | | | Hexachloroethane | 2.0E-07 | N/A | 3.4E-07 | 5.3E-07 | Hexachloroethane | Kidney | 1.6E-01 | N/A | 2.8E-01 | 4.4E-01 |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-05 | N/A | 1.2E-03 | 1.2E-03 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 8.2E-03 | N/A | 6.2E-03 | 1.4E-02 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 3.3E-01 | N/A | 2.4E-02 | 3.5E-01 |
| | | | Pentachlorophenol | 1.7E-06 | N/A | 8.8E-05 | 9.0E-05 | Pentachlorophenol | Liver, Kidney | 5.5E-03 | N/A | 3.7E-01 | 3.8E-01 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 1.5E-05 | N/A | 4.7E-06 | 2.0E-05 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 2.0E-07 | N/A | 1.6E-06 | 1.8E-06 | bis(2-Ethylhexyl)phthalate | Liver | 8.2E-03 | N/A | 7.7E-02 | 8.5E-02 |
| | | | n-Nitroso-di-n-propylamine | 9.8E-05 | N/A | 3.1E-06 | 1.0E-04 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 4.1E-04 | N/A | 3.2E-02 | 3.3E-02 | (Total) | | 1.1E+01 | N/A | 9.8E+00 | 2.1E+01 |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 6.7E-06 | N/A | 3.8E-07 | 7.1E-06 | Arsenic | Skin, Vascular | 1.7E-01 | N/A | 9.8E-04 | 1.8E-01 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 5.5E-02 | N/A | 0.0E+00 | 5.5E-02 |
| | | | Benzene | 1.8E-10 | N/A | 0.0E+00 | 1.8E-10 | Benzene | Blood | 1.3E-05 | N/A | 0.0E+00 | 1.3E-05 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 3.8E-06 | N/A | 0.0E+00 | 3.8E-06 |
| | | | Benzo(a)pyrene | 1.7E-06 | N/A | 4.2E-07 | 2.1E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.7E-07 | N/A | 4.2E-08 | 2.1E-07 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 1.7E-07 | N/A | 4.2E-08 | 2.1E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.7E-09 | N/A | 4.2E-10 | 2.1E-09 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Indeno(1,2,3-c,d)pyrene | 1.7E-07 | N/A | 4.2E-08 | 2.1E-07 | Indeno(1,2,3-c,d)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | benzo(k)fluoranthene | 1.7E-08 | N/A | 4.2E-09 | 2.1E-08 | benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.2E-08 | N/A | 2.3E-09 | 1.4E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.3E-02 | N/A | 4.4E-03 | 2.8E-02 |
| | | | 4-Nitroaniline | 1.2E-08 | N/A | 2.3E-09 | 1.4E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.3E-03 | N/A | 4.4E-04 | 2.8E-03 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.7E-05 | N/A | 5.1E-06 | 3.3E-05 |
| | | | Dibenzo(a,h)anthracene | 1.7E-06 | N/A | 4.2E-07 | 2.1E-06 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 3.8E-07 | N/A | 7.0E-08 | 4.5E-07 | Hexachlorobenzene | Liver | 3.4E-03 | N/A | 6.4E-04 | 4.1E-03 |
| | | | bis(2-Chloroethyl)ether | 2.6E-07 | N/A | 4.8E-08 | 3.1E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.6E-06 | N/A | 3.1E-07 | 2.0E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.3E-05 | N/A | 1.8E-06 | 1.5E-05 | (Total) | | 2.6E-01 | N/A | 6.4E-03 | 2.6E-01 |

TABLE 9.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Air | Emissions from Site 2 Surface Soil | Arsenic | N/A | 3.1E-09 | N/A | 3.1E-09 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chromium | N/A | 2.6E-08 | N/A | 2.6E-08 | Chromium | Respiratory System | N/A | 2.5E-04 | N/A | 2.5E-04 |
| | | | Benzene | N/A | 2.4E-09 | N/A | 2.4E-09 | Benzene | Blood | N/A | 5.7E-04 | N/A | 5.7E-04 |
| | | | cis-1,2-Dichloroethane | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 2.1E-09 | N/A | 2.1E-09 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | NOAEL | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 5.4E-07 | N/A | 5.4E-07 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | N/A | 5.7E-07 | N/A | 5.7E-07 | (Total) | | N/A | 8.2E-04 | N/A | 8.2E-04 |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 7.4E-06 | N/A | 1.8E-06 | 9.2E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.2E-06 | N/A | 2.9E-07 | 1.5E-06 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 1.8E-07 | N/A | 4.3E-08 | 2.2E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.8E-09 | N/A | 4.3E-10 | 2.2E-09 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.8E-08 | N/A | 4.3E-09 | 2.2E-08 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Arsenic | 6.2E-06 | N/A | 3.5E-07 | 6.6E-06 | Arsenic | Skin, Vascular | 1.6E-01 | N/A | 9.1E-03 | 1.7E-01 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzene | 1.8E-10 | N/A | 0.0E+00 | 1.8E-10 | Benzene | Blood | 1.3E-05 | N/A | 0.0E+00 | 1.3E-05 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 2.8E-09 | N/A | 1.6E-10 | 3.0E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.1E-08 | N/A | 2.0E-09 | 1.3E-08 | 3-Nitroaniline | Liver, Blood, CNS | 2.1E-02 | N/A | 4.0E-03 | 2.5E-02 |
| | | | 4-Nitroaniline | 1.1E-08 | N/A | 2.0E-09 | 1.3E-08 | 4-Nitroaniline | Liver, Blood, CNS | 2.1E-03 | N/A | 4.0E-04 | 2.5E-03 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.6E-05 | N/A | 4.8E-06 | 3.0E-05 |
| | | | Dibenzo(a,h,)anthracene | 1.6E-06 | N/A | 3.9E-07 | 2.0E-06 | Dibenzo(a,h,)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 3.5E-07 | N/A | 6.6E-08 | 4.2E-07 | Hexachlorobenzene | Liver | 3.2E-03 | N/A | 6.0E-04 | 3.8E-03 |
| | | | Indeno(1,2,3-cd)pyrene | 2.9E-07 | N/A | 7.0E-08 | 3.6E-07 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 2.4E-07 | N/A | 4.5E-08 | 2.9E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.5E-06 | N/A | 2.9E-07 | 1.8E-06 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.9E-05 | N/A | 3.4E-06 | 2.2E-05 | (Total) | | 1.9E-01 | N/A | 1.4E-02 | 2.0E-01 |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 2 | Arsenic | N/A | 2.9E-08 | N/A | 2.9E-08 | Arsenic | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 3.3E-05 | N/A | 3.3E-05 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 3.9E-06 | N/A | 3.9E-06 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Chromium | N/A | 2.8E-07 | N/A | 2.8E-07 | Chromium | Respiratory System | N/A | 2.7E-04 | NA | 2.7E-04 |
| | | | Benzene | N/A | 8.0E-09 | N/A | 8.0E-09 | Benzene | Blood | N/A | 5.7E-04 | NA | 5.7E-04 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | Acetophone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophone | NOAEL | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | 7.1E-10 | N/A | 7.1E-10 | bis(2-Chloroethyl)ether | N/A | N/A | 0.0E+00 | NA | 0.0E+00 |
| | | | (Total) | N/A | 3.7E-05 | N/A | 3.7E-05 | (Total) | | N/A | 8.4E-04 | N/A | 8.4E-04 |

TABLE 9.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 2.1E-07 | N/A | 5.0E-08 | 2.6E-07 | Arsenic | Skin, Vascular | 5.4E-01 | N/A | 4.6E-05 | 5.4E-01 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 6.6E-02 | N/A | 4.5E-04 | 6.7E-02 |
| | | | Benzene | 5.0E-10 | N/A | 2.1E-09 | 2.6E-09 | Benzene | Blood | 3.6E-03 | N/A | 5.2E-06 | 3.6E-03 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | N/A | 1.1E-03 | N/A | 8.9E-07 | 1.1E-03 |
| | | | Benzo(a)pyrene | 3.3E-07 | N/A | 3.0E-04 | 3.0E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 3.3E-08 | N/A | 3.0E-05 | 3.0E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 1.8E-09 | N/A | 5.1E-09 | 7.0E-09 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 1.8E-04 | N/A | 1.8E-07 | 1.8E-04 |
| | | | 1,1,2-Trichloroethane | 5.2E-10 | N/A | 1.2E-09 | 1.7E-09 | 1,1,2-Trichloroethane | Blood | 2.7E-03 | N/A | 2.1E-06 | 2.7E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 1.3E-08 | N/A | 3.4E-08 | 4.7E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.8E-09 | N/A | 7.2E-09 | 1.5E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 8.3E-10 | N/A | 1.1E-09 | 1.9E-09 | 1,2-Dichloroethane | Liver | 3.6E-04 | N/A | 1.6E-07 | 3.6E-04 |
| | | | 1,2-Dichloropropane | 6.2E-10 | N/A | 1.6E-09 | 2.2E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 1.1E-03 | N/A | 4.1E-07 | 1.1E-03 |
| | | | Bromodichloromethane | 5.7E-10 | N/A | 1.0E-09 | 1.6E-09 | Bromodichloromethane | Kidney | 5.3E-04 | N/A | 3.5E-07 | 5.3E-04 |
| | | | Carbon Tetrachloride | 1.2E-09 | N/A | 7.1E-09 | 8.3E-09 | Carbon Tetrachloride | Liver | 1.5E-02 | N/A | 3.3E-05 | 1.5E-02 |
| | | | Dibromochloromethane | 7.7E-10 | N/A | 1.0E-09 | 1.8E-09 | Dibromochloromethane | Liver | 5.3E-04 | N/A | 3.2E-07 | 5.3E-04 |
| | | | Tetrachloroethene | 4.8E-10 | N/A | 6.2E-09 | 6.7E-09 | Tetrachloroethene | Liver/whole body | 1.1E-03 | N/A | 5.0E-06 | 1.1E-03 |
| | | | Vinyl chloride | 1.3E-08 | N/A | 2.0E-08 | 3.3E-08 | Vinyl chloride | Liver | 3.6E-03 | N/A | 2.0E-06 | 3.6E-03 |
| | | | cis-1,3-Dichloropropene | 9.2E-10 | N/A | 1.3E-09 | 2.2E-09 | cis-1,3-Dichloropropene | Skin | 3.6E-04 | N/A | 1.8E-07 | 3.6E-04 |
| | | | trans-1,3-Dichloropropene | 9.2E-10 | N/A | 1.3E-09 | 2.2E-09 | trans-1,3-Dichloropropene | Skin | 3.6E-04 | N/A | 8.8E-07 | 3.6E-04 |
| | | | 2,4,6-Trichlorophenol | 5.0E-10 | N/A | 8.7E-09 | 9.2E-09 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 2.7E-02 | N/A | 1.3E-05 | 2.7E-02 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 5.3E-02 | N/A | 1.8E-05 | 5.3E-02 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin | 2.7E-03 | N/A | 4.1E-05 | 2.7E-03 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 2.1E-08 | N/A | 2.1E-07 | 2.3E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 3.7E-09 | N/A | 2.8E-09 | 6.4E-09 | 3-Nitroaniline | Liver, Blood, CNS | 7.1E-01 | N/A | 3.8E-07 | 7.1E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 2.1E+00 | N/A | 3.5E-03 | 2.1E+00 |
| | | | 4-Nitroaniline | 3.7E-09 | N/A | 2.8E-09 | 6.5E-09 | 4-Nitroaniline | Liver, Blood, CNS | 7.1E-02 | N/A | 1.9E-05 | 7.1E-02 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 3.3E-08 | N/A | 1.4E-05 | 1.4E-05 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 3.3E-09 | N/A | 2.7E-06 | 2.7E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 3.3E-10 | N/A | 1.4E-07 | 1.4E-07 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.3E-07 | N/A | 5.9E-04 | 5.9E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 1.3E-02 | N/A | 2.1E-07 | 1.3E-02 |
| | | | Hexachlorobenzene | 7.3E-08 | N/A | 1.2E-05 | 1.2E-05 | Hexachlorobenzene | Liver | 6.7E-02 | N/A | 4.0E-06 | 6.7E-02 |
| | | | Hexachlorobutadiene | 3.6E-09 | N/A | 2.5E-07 | 2.6E-07 | Hexachlorobutadiene | Kidney | 2.7E-01 | N/A | 6.8E-03 | 2.7E-01 |
| | | | Hexachloroethane | 6.4E-10 | N/A | 1.3E-08 | 1.4E-08 | Hexachloroethane | Kidney | 5.3E-02 | N/A | 4.0E-04 | 5.4E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 3.3E-08 | N/A | 3.7E-05 | 3.7E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 2.7E-03 | N/A | 1.4E-05 | 2.7E-03 |
| | | | Pentachlorophenol | 5.5E-09 | N/A | 2.7E-06 | 2.8E-06 | Pentachlorophenol | Kidney/liver | 1.8E-03 | N/A | 4.1E-04 | 2.2E-03 |

TABLE 9.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | bis(2-Chloroethyl)ether | 5.0E-08 | N/A | 3.3E-07 | 3.8E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 6.4E-10 | N/A | 5.8E-08 | 5.8E-08 | bis(2-Ethylhexyl)phthalate | Liver | 2.7E-03 | N/A | 8.6E-05 | 2.8E-03 |
| | | | n-Nitroso-di-n-propylamine | 3.2E-07 | N/A | 2.4E-07 | 5.6E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.5E-06 | N/A | 9.9E-04 | 9.9E-04 | (Total) | | 4.0E+00 | N/A | 1.2E-02 | 4.1E+00 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 8.9E-07 | N/A | 4.2E-06 | 5.1E-06 | Arsenic | Skin, Vascular | 2.3E-02 | N/A | 5.5E-02 | 7.8E-02 |
| | | | Chromium | 0.0E+00 | N/A | 1.1E-05 | 1.1E-05 | Chromium | NOAEL | 1.7E-02 | N/A | 3.0E-01 | 3.1E-01 |
| | | | Benzene | 1.7E-10 | N/A | 0.0E+00 | 1.7E-10 | Benzene | Blood | 1.1E-05 | N/A | 0.0E+00 | 1.1E-05 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 3.3E-06 | N/A | 0.0E+00 | 3.3E-06 |
| | | | Benzo(a)pyrene | 8.7E-07 | N/A | 3.7E-10 | 8.7E-07 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 2.3E-05 | 2.3E-05 |
| | | | Benzo(b)fluoranthene | 8.7E-08 | N/A | 0.0E+00 | 8.7E-08 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 4.2E-05 | 4.2E-05 |
| | | | Chrysene | 9.3E-10 | N/A | 4.9E-05 | 4.9E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 9.3E-09 | N/A | 4.9E-06 | 4.9E-06 | | | | | | |
| | | | 1,2-Dibromoethane | 2.6E-09 | N/A | 3.4E-08 | 3.6E-08 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 1.3E-09 | N/A | 5.8E-08 | 5.8E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 5.4E-08 | N/A | 2.3E-06 | 2.4E-06 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 6.2E-09 | N/A | 2.7E-07 | 2.7E-07 | 3-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 4-Nitroaniline | 6.2E-09 | N/A | 2.7E-07 | 2.7E-07 | 4-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 1.2E-02 | N/A | 0.0E+00 | 1.2E-02 |
| | | | Benzo(a)anthracene | 8.7E-08 | N/A | 4.9E-06 | 5.0E-06 | Benzo(a)anthracene | N/A | 1.2E-03 | N/A | 0.0E+00 | 1.2E-03 |
| | | | Dibenz(a,h)anthracene | 8.7E-07 | N/A | 4.9E-05 | 5.0E-05 | Dibenz(a,h)anthracene | N/A | 1.4E-05 | N/A | 5.2E-01 | 5.2E-01 |
| | | | Hexachlorobenzene | 1.9E-07 | N/A | 3.7E-05 | 3.8E-05 | Hexachlorobenzene | Liver | 0.0E+00 | N/A | 5.2E-02 | 5.2E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 8.7E-08 | N/A | 4.9E-06 | 5.0E-06 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 6.0E-04 | 6.0E-04 |
| | | | Pentachlorophenol | 3.7E-08 | N/A | 5.3E-06 | 5.3E-06 | Pentachlorophenol | Liver/Kidney | 1.7E-03 | N/A | 0.0E+00 | 1.7E-03 |
| | | | bis(2-Chloroethyl)ether | 1.3E-07 | N/A | 5.6E-06 | 5.8E-06 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 8.4E-07 | N/A | 3.6E-05 | 3.7E-05 | n-Nitroso-di-n-propylamine | N/A | 1.2E-04 | N/A | 7.5E-02 | 7.5E-02 |
| | | | (Total) | 4.2E-06 | N/A | 2.1E-04 | 2.2E-04 | (Total) | | 5.5E-02 | N/A | 9.9E-01 | 1.0E+00 |

| | |
|---|---|
| Total Risk Across Groundwater | 3.3E-02 |
| Total Risk Across Surface Soil | 1.5E-05 |
| Total Risk Across Subsurface Soil | 5.9E-05 |
| Total Risk Across Surface Water | 9.9E-04 |
| Total Risk Across Sediment | 2.2E-04 |
| Total Risk Across All Media and All Exposure Routes | 3.4E-02 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 2.7E+01 |

TABLE 9.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | | | | | | | | | | Total Skin HI = | 9.8E-01 |
| | | | | | | | | | | | | Total Vascular HI = | 9.8E-01 |
| | | | | | | | | | | | | Total Liver HI = | 8.0E+00 |
| | | | | | | | | | | | | Total Whole Body HI = | 2.7E-01 |
| | | | | | | | | | | | | Total Blood HI = | 3.9E+00 |
| | | | | | | | | | | | | Total Kidney HI = | 1.4E+01 |
| | | | | | | | | | | | | Total GI HI = | 2.4E-02 |
| | | | | | | | | | | | | Total Chronic Irritation HI = | 2.2E-03 |
| | | | | | | | | | | | | Total Eyes HI = | 9.1E+00 |
| | | | | | | | | | | | | Total CNS HI = | 1.2E+01 |
| | | | | | | | | | | | | Total Reproduction HI = | 3.7E-02 |
| | | | | | | | | | | | | Total Bile Duct HI = | 1.7E-01 |
| | | | | | | | | | | | | Total Body Weight HI = | 1.7E-02 |
| | | | | | | | | | | | | Total Adrenal HI = | 3.5E-01 |
| | | | | | | | | | | | | Total NOAEL HI = | 5.0E-01 |

TABLE 9.5.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | Chromium | N/A | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | N/A | N/A | 7.6E-04 | 7.6E-04 |
| | | | Benzene | N/A | N/A | 5.5E-10 | 5.5E-10 | Benzene | Blood | N/A | N/A | 2.3E-04 | 2.3E-04 |
| | | | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | N/A | N/A | 6.7E-06 | 6.7E-06 |
| | | | Arsenic | N/A | N/A | 2.4E-09 | 2.4E-09 | Arsenic | Skin, Vascular | N/A | N/A | 3.7E-04 | 3.7E-04 |
| | | | Benzo(a)pyrene | N/A | N/A | 2.6E-05 | 2.6E-05 | Benzo(a)pyrene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | N/A | 2.7E-06 | 2.7E-06 | Benzo(b)fluoranthene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | N/A | N/A | 9.0E-10 | 9.0E-10 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | N/A | N/A | 5.2E-06 | 5.2E-06 |
| | | | 1,1,2-Trichloroethane | N/A | N/A | 2.2E-10 | 2.2E-10 | 1,1,2-Trichloroethane | Blood | N/A | N/A | 6.9E-06 | 6.9E-06 |
| | | | 1,2-Dibromo-3-chloropropane | N/A | N/A | 4.7E-09 | 4.7E-09 | 1,2-Dibromo-3-chloropropane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | N/A | N/A | 1.2E-09 | 1.2E-09 | 1,2-Dibromoethane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | N/A | N/A | 2.2E-10 | 2.2E-10 | 1,2-Dichloroethane | Liver | N/A | N/A | 5.8E-06 | 5.8E-06 |
| | | | 1,2-Dichloropropane | N/A | N/A | 3.1E-10 | 3.1E-10 | 1,2-Dichloropropane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | 1,3-Dichlorobenzene | Liver | N/A | N/A | 7.2E-05 | 7.2E-05 |
| | | | 1,4-Dichlorobenzene | N/A | N/A | 5.7E-10 | 5.7E-10 | 1,4-Dichlorobenzene | Liver | N/A | N/A | 5.5E-05 | 5.5E-05 |
| | | | Bromodichloromethane | N/A | N/A | 1.9E-10 | 1.9E-10 | Bromodichloromethane | Kidney | N/A | N/A | 1.0E-05 | 1.0E-05 |
| | | | Bromoform | N/A | N/A | 1.6E-11 | 1.6E-11 | Bromoform | Liver | N/A | N/A | 7.0E-07 | 7.0E-07 |
| | | | Bromomethane | N/A | N/A | 0.0E+00 | 0.0E+00 | Bromomethane | Gastrointestinal | N/A | N/A | 8.2E-05 | 8.2E-05 |
| | | | Carbon tetrachloride | N/A | N/A | 1.3E-09 | 1.3E-09 | Carbon tetrachloride | Liver | N/A | N/A | 9.6E-04 | 9.6E-04 |
| | | | Chloroform | N/A | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | N/A | N/A | 2.9E-05 | 2.9E-05 |
| | | | Dibromochloromethane | N/A | N/A | 1.6E-10 | 1.6E-10 | Dibromochloromethane | Liver | N/A | N/A | 6.6E-07 | 6.6E-07 |
| | | | Tetrachloroethene | N/A | N/A | 1.0E-09 | 1.0E-09 | Tetrachloroethene | Liver, Whole Body | N/A | N/A | 1.4E-05 | 1.4E-05 |
| | | | Vinyl chloride | N/A | N/A | 2.3E-09 | 2.3E-09 | Vinyl chloride | Liver | N/A | N/A | 7.4E-05 | 7.4E-05 |
| | | | cis-1,3-Dichloropropene | N/A | N/A | 2.6E-10 | 2.6E-10 | cis-1,3-Dichloropropene | Chronic Irritation | N/A | N/A | 6.0E-05 | 6.0E-05 |
| | | | trans-1,3-Dichloropropene | N/A | N/A | 2.6E-10 | 2.6E-10 | trans-1,3-Dichloropropene | Chronic Irritation | N/A | N/A | 6.0E-05 | 6.0E-05 |
| | | | 2,2'-Oxybis(1-chloropropane) | N/A | N/A | 0.0E+00 | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | N/A | N/A | 1.3E-09 | 1.3E-09 | 2,4,6-Trichlorophenol | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrophenol | Eyes | N/A | N/A | 1.5E-03 | 1.5E-03 |
| | | | 2,6-Dinitrotoluene | N/A | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | N/A | N/A | 5.2E-05 | 5.2E-05 |
| | | | 2-Chlorophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 2-Chlorophenol | Reproduction | N/A | N/A | 3.3E-05 | 3.3E-05 |
| | | | 2-Nitroaniline | N/A | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | N/A | N/A | 2.7E-08 | 2.7E-08 | 3,3'-Dichlorobenzidine | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |

TABLE 9.5.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3-Nitroaniline | N/A | N/A | 5.5E-10 | 5.5E-10 | 3-Nitroaniline | Liver, Blood, CNS | N/A | N/A | 6.4E-03 | 6.4E-03 |
| | | | 4,6-Dinitro-2-methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | N/A | N/A | 6.9E-02 | 6.9E-02 |
| | | | 4-Methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | 4-Methylphenol | CNS, Resp., Whole Body | N/A | N/A | 1.9E-04 | 1.9E-04 |
| | | | 4-Nitroaniline | N/A | N/A | 5.6E-10 | 5.6E-10 | 4-Nitroaniline | Liver, Blood, CNS | N/A | N/A | 5.7E-04 | 5.7E-04 |
| | | | Benzo(a)anthracene | N/A | N/A | 1.3E-06 | 1.3E-06 | Benzo(a)anthracene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | N/A | N/A | 2.4E-07 | 2.4E-07 | Benzo(k)fluoranthene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chysene | N/A | N/A | 1.3E-08 | 1.3E-08 | Chrysene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | N/A | N/A | 5.0E-05 | 5.0E-05 | Dibenz(a,h)anthracene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | N/A | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | N/A | N/A | 3.5E-03 | 3.5E-03 |
| | | | Hexachlorobenzene | N/A | N/A | 1.2E-06 | 1.2E-06 | Hexachlorobenzene | Liver | N/A | N/A | 6.5E-02 | 6.5E-02 |
| | | | Hexachlorobutadiene | N/A | N/A | 2.8E-08 | 2.8E-08 | Hexachlorobutadiene | Kidney | N/A | N/A | 1.3E-01 | 1.3E-01 |
| | | | Hexachloroethane | N/A | N/A | 1.7E-09 | 1.7E-09 | Hexachloroethane | Kidney | N/A | N/A | 6.7E-03 | 6.7E-03 |
| | | | Indeno(1,2,3-cd)pyrene | N/A | N/A | 3.2E-06 | 3.2E-06 | Indeno(1,2,3-cd)pyrene | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | N/A | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | N/A | N/A | 4.5E-04 | 4.5E-04 |
| | | | Nitrobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | N/A | N/A | 2.3E-04 | 2.3E-04 |
| | | | Pentachlorophenol | N/A | N/A | 2.5E-07 | 2.5E-07 | Pentachlorophenol | Liver, Kidney | N/A | N/A | 6.3E-03 | 6.3E-03 |
| | | | bis(2-Chloroethoxy)methane | N/A | N/A | 0.0E+00 | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | N/A | N/A | 6.4E-08 | 6.4E-08 | bis(2-Chloroethyl)ether | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | N/A | N/A | 5.3E-09 | 5.3E-09 | bis(2-Ethylhexyl)phthalate | Liver | N/A | N/A | 1.3E-03 | 1.3E-03 |
| | | | n-Nitroso-di-n-propylamine | N/A | N/A | 4.7E-08 | 4.7E-08 | n-Nitroso-di-n-propylamine | N/A | N/A | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | N/A | N/A | 8.5E-05 | 8.5E-05 | (Total) | (Total) | N/A | N/A | 2.9E-01 | 2.9E-01 |
| Groundwater | Air | Water Vapors at Excavation Pit | Benzene | N/A | 1.2E-09 | N/A | 1.2E-09 | Benzene | Blood | N/A | 1.7E-04 | N/A | 1.7E-04 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | N/A | 5.4E-09 | N/A | 5.4E-09 | 1,1,2,2-Tetrachloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,1,2-Trichloroethane | N/A | 1.6E-09 | N/A | 1.6E-09 | 1,1,2-Trichloroethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,2-Dibromo-3-chloropropane | N/A | 5.4E-11 | N/A | 5.4E-11 | 1,2-Dibromo-3-chloropropane | Testicles | N/A | 2.8E-02 | N/A | 2.8E-02 |
| | | | 1,2-Dibromoethane | N/A | 2.0E-08 | N/A | 2.0E-08 | 1,2-Dibromoethane | Sperm | N/A | 3.2E-03 | N/A | 3.2E-03 |
| | | | 1,2-Dichloroethane | N/A | 2.8E-09 | N/A | 2.8E-09 | 1,2-Dichloroethane | Liver, Kidney | N/A | 1.5E-03 | N/A | 1.5E-03 |
| | | | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,2-Dichloropropane | Nose | N/A | 5.6E-04 | N/A | 5.6E-04 |
| | | | 1,3-Dichlorobenzene | N/A | 0.0E+00 | N/A | 0.0E+00 | 1,3-Dichlorobenzene | Liver, Kidney | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | 1,4-Dichlorobenzene | N/A | 6.1E-10 | N/A | 6.1E-10 | 1,4-Dichlorobenzene | Liver, Kidney | N/A | 2.8E-06 | N/A | 2.8E-06 |
| | | | Bromodichloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromodichloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromoform | N/A | 6.2E-09 | N/A | 6.2E-09 | Bromoform | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Bromomethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Bromomethane | Nose | N/A | 1.6E-03 | N/A | 1.6E-03 |
| | | | Carbon tetrachloride | N/A | 1.5E-09 | N/A | 1.5E-09 | Carbon tetrachloride | Liver | N/A | 3.4E-03 | N/A | 3.4E-03 |
| | | | Chloroform | N/A | 2.4E-09 | N/A | 2.4E-09 | Chloroform | Liver, Kidney | N/A | 2.4E-03 | N/A | 2.4E-03 |
| | | | Dibromochloromethane | N/A | 0.0E+00 | N/A | 0.0E+00 | Dibromochloromethane | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Tetrachloroethene | N/A | 2.7E-10 | N/A | 2.7E-10 | Tetrachloroethene | Liver, Whole Body | N/A | 1.4E-05 | N/A | 1.4E-05 |
| | | | Vinyl chloride | N/A | 5.2E-10 | N/A | 5.2E-10 | Vinyl chloride | Liver | N/A | 8.6E-05 | N/A | 8.6E-05 |
| | | | cis-1,3-Dichloropropene | N/A | 3.0E-10 | N/A | 3.0E-10 | cis-1,3-Dichloropropene | Nasal Mucosa | N/A | 3.7E-04 | N/A | 3.7E-04 |
| | | | trans-1,3-Dichloropropene | N/A | 3.0E-10 | N/A | 3.0E-10 | trans-1,3-Dichloropropene | Nasal Mucosa | N/A | 3.7E-04 | N/A | 3.7E-04 |
| | | | (Total) | N/A | 4.3E-08 | N/A | 4.3E-08 | (Total) | | N/A | 4.1E-02 | N/A | 4.1E-02 |

TABLE 9.5.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 7.3E-08 | N/A | 2.5E-08 | 9.8E-08 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 1.7E-09 | N/A | 4.0E-09 | 5.8E-09 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.7E-11 | N/A | 5.9E-10 | 6.1E-10 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.7E-10 | N/A | 5.9E-12 | 1.8E-10 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Arsenic | 6.1E-08 | N/A | 5.2E-09 | 6.6E-08 | Arsenic | Skin, Vascular | 9.5E-03 | N/A | 7.6E-04 | 1.0E-02 |
| | | | Chromium | 1.8E-12 | N/A | 0.0E+00 | 1.8E-12 | Chromium | NOAEL | 5.2E-04 | N/A | 0.0E+00 | 5.2E-04 |
| | | | Benzene | 0.0E+00 | N/A | 2.3E-14 | 2.3E-14 | Benzene | Blood | 7.5E-07 | N/A | 0.0E+00 | 7.5E-07 |
| | | | cis-1,2-Dichloroethene | 1.2E-08 | N/A | 0.0E+00 | 1.2E-08 | cis-1,2-Dichloroethene | Blood | 2.3E-08 | N/A | 0.0E+00 | 2.3E-08 |
| | | | Benzo(b)fluoranthene | 0.0E+00 | N/A | 4.0E-09 | 4.0E-09 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 1.5E-07 | N/A | 5.0E-08 | 2.0E-07 |
| | | | Dibenzo(a,h)anthracene | 1.6E-08 | N/A | 5.4E-09 | 2.1E-08 | Dibenzo(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 1.5E-08 | N/A | 4.0E-09 | 1.9E-08 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 1.8E-07 | N/A | 4.6E-08 | 2.3E-07 | (Total) | | 1.0E-02 | N/A | 7.6E-04 | 1.1E-02 |
| Subsurface Soil | Air | Emissions from Site 2 Subsurface Soil | Arsenic | N/A | 1.3E-10 | N/A | 1.3E-10 | Arsenic | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(a)pyrene | N/A | 2.4E-18 | N/A | 2.4E-18 | Benzo(a)pyrene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | N/A | 2.1E-18 | N/A | 2.1E-18 | Benzo(b)fluoranthene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Chromium | N/A | 1.3E-09 | N/A | 1.3E-09 | Chromium | Respiratory System | N/A | 2.0E-04 | N/A | 2.0E-04 |
| | | | Benzene | N/A | 8.5E-20 | N/A | 8.5E-20 | Benzene | Blood | N/A | 4.9E-07 | N/A | 4.9E-07 |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | Acetophenone | N/A | N/A | 0.0E+00 | N/A | 0.0E+00 |
| | | | (Total) | N/A | 1.4E-09 | N/A | 1.4E-09 | (Total) | | N/A | 2.0E-04 | N/A | 2.0E-04 |

| | |
|---|---|
| Total Risk Across Groundwater | 8.5E-05 |
| Total Risk Across Subsurface Soil | 2.3E-07 |
| Total Risk Across All Media and All Exposure Routes | 8.5E-05 |
| Total Hazard Index Across All Media and All Exposure Routes | 3.4E-01 |

TABLE 9.5.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | | | | | | | | | | Total Skin HI = | 1.1E-02 |
| | | | | | | | | | | | | Total Vascular HI = | 1.1E-02 |
| | | | | | | | | | | | | Total Liver HI = | 2.0E-02 |
| | | | | | | | | | | | | Total Whole Body HI = | 2.7E-04 |
| | | | | | | | | | | | | Total Blood HI = | 7.6E-03 |
| | | | | | | | | | | | | Total Kidney HI = | 1.5E-01 |
| | | | | | | | | | | | | Total GI HI = | 8.2E-05 |
| | | | | | | | | | | | | Total Chronic Irritation HI = | 1.2E-04 |
| | | | | | | | | | | | | Total Eyes HI = | 7.1E-02 |
| | | | | | | | | | | | | Total CNS HI = | 7.6E-02 |
| | | | | | | | | | | | | Total Reproduction HI = | 3.3E-05 |
| | | | | | | | | | | | | Total Bile Duct HI = | 5.2E-05 |
| | | | | | | | | | | | | Total Body Weight HI = | 4.5E-04 |
| | | | | | | | | | | | | Total Adrenal HI = | 2.3E-04 |
| | | | | | | | | | | | | Total Testicles HI = | 2.8E-02 |
| | | | | | | | | | | | | Total Sperm HI = | 3.2E-03 |
| | | | | | | | | | | | | Total Nasal HI = | 2.9E-03 |
| | | | | | | | | | | | | Total NOAEL HI = | 1.3E-03 |
| | | | | | | | | | | | | Total Respiratory System HI = | 3.8E-04 |

TABLE 9.6.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Chromium | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Benzene | 5.2E-07 | N/A | N/A | 5.2E-07 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Arsenic | 3.3E-05 | N/A | N/A | 3.3E-05 | | | | | | |
| | | | Benzo(a)pyrene | 2.8E-04 | N/A | N/A | 2.8E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.8E-05 | N/A | N/A | 2.8E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.5E-06 | N/A | N/A | 1.5E-06 | | | | | | |
| | | | 1,1,2-Trichloroethane | 4.3E-07 | N/A | N/A | 4.3E-07 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | 1,2-Dibromoethane | 6.3E-06 | N/A | N/A | 6.3E-06 | | | | | | |
| | | | 1,2-Dichloroethane | 6.8E-07 | N/A | N/A | 6.8E-07 | | | | | | |
| | | | 1,2-Dichloropropane | 5.1E-07 | N/A | N/A | 5.1E-07 | | | | | | |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 1,4-Dichlorobenzene | 1.8E-07 | N/A | N/A | 1.8E-07 | | | | | | |
| | | | Bromodichloromethane | 4.6E-07 | N/A | N/A | 4.6E-07 | | | | | | |
| | | | Bromoform | 5.9E-08 | N/A | N/A | 5.9E-06 | | | | | | |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Carbon tetrachloride | 9.7E-07 | N/A | N/A | 9.7E-07 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Dibromochloromethane | 6.3E-07 | N/A | N/A | 6.3E-07 | | | | | | |
| | | | Tetrachloroethene | 3.9E-07 | N/A | N/A | 3.9E-07 | | | | | | |
| | | | Vinyl chloride | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | cis-1,3-Dichloropropene | 7.5E-07 | N/A | N/A | 7.5E-07 | | | | | | |
| | | | trans-1,3-Dichloropropene | 7.5E-07 | N/A | N/A | 7.5E-07 | | | | | | |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 4.2E-07 | N/A | N/A | 4.2E-07 | | | | | | |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.7E-05 | N/A | N/A | 1.7E-05 | | | | | | |
| | | | 3-Nitroaniline | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |

TABLE 9.6.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | Benzo(a)anthracene | 2.8E-05 | N/A | N/A | 2.8E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 2.8E-06 | N/A | N/A | 2.8E-06 | | | | | | |
| | | | Chrysene | 2.8E-07 | N/A | N/A | 2.8E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.8E-04 | N/A | N/A | 2.8E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 6.1E-05 | N/A | N/A | 6.1E-05 | | | | | | |
| | | | Hexachlorobutadiene | 3.0E-06 | N/A | N/A | 3.0E-06 | | | | | | |
| | | | Hexachloroethane | 5.4E-07 | N/A | N/A | 5.4E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 2.8E-05 | N/A | N/A | 2.8E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 4.6E-06 | N/A | N/A | 4.6E-06 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.2E-05 | N/A | N/A | 4.2E-05 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 5.4E-07 | N/A | N/A | 5.4E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.7E-04 | N/A | N/A | 2.7E-04 | | | | | | |
| | | | (Total) | 1.1E-03 | N/A | 0.0E+00 | 1.1E-03 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 9.6E-06 | N/A | 1.5E-06 | 1.1E-05 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 2.6E-10 | N/A | 0.0E+00 | 2.6E-10 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 2.5E-06 | N/A | 1.7E-06 | 4.1E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.5E-07 | N/A | 1.7E-07 | 4.1E-07 | | | | | | |
| | | | Benzo(a)anthracene | 2.5E-07 | N/A | 1.7E-07 | 4.1E-07 | | | | | | |
| | | | Chrysene | 2.5E-09 | N/A | 1.7E-09 | 4.1E-09 | | | | | | |
| | | | Indeno(1,2,3-c,d)pyrene | 2.5E-07 | N/A | 1.7E-07 | 4.1E-07 | | | | | | |
| | | | benzo(k)fluoranthene | 2.5E-08 | N/A | 1.7E-08 | 4.1E-08 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 1.7E-08 | N/A | 9.1E-09 | 2.6E-08 | | | | | | |
| | | | 4-Nitroaniline | 1.7E-08 | N/A | 9.1E-09 | 2.6E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 2.5E-06 | N/A | 1.7E-06 | 4.1E-06 | | | | | | |
| | | | Hexachlorobenzene | 5.4E-07 | N/A | 2.8E-07 | 8.2E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 3.7E-07 | N/A | 2.0E-07 | 5.7E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.4E-06 | N/A | 1.2E-06 | 3.6E-06 | | | | | | |
| | | | (Total) | 1.9E-05 | N/A | 7.1E-06 | 2.6E-05 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.6.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Air | Emissions from Site 2 Surface Soil | Arsenic | N/A | 7.4E-09 | N/A | 7.4E-09 | | | | | | |
| | | | Chromium | N/A | 6.4E-08 | N/A | 6.4E-08 | | | | | | |
| | | | Benzene | N/A | 5.9E-09 | N/A | 5.9E-09 | | | | | | |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | N/A | 5.1E-09 | N/A | 5.1E-09 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | Acetophenone | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | 1.3E-06 | N/A | 1.3E-06 | | | | | | |
| | | | (Total) | N/A | 1.4E-06 | N/A | 1.4E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 1.1E-05 | N/A | 7.3E-06 | 1.8E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.7E-06 | N/A | 1.2E-06 | 2.9E-06 | | | | | | |
| | | | Benzo(a)anthracene | 2.5E-07 | N/A | 1.7E-07 | 4.2E-07 | | | | | | |
| | | | Chrysene | 2.5E-09 | N/A | 1.7E-09 | 4.2E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 2.5E-08 | N/A | 1.7E-08 | 4.2E-08 | | | | | | |
| | | | Arsenic | 8.9E-06 | N/A | 1.4E-06 | 1.0E-05 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 2.6E-10 | N/A | 0.0E+00 | 2.6E-10 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,2-Dibromoethane | 4.0E-09 | N/A | 6.3E-10 | 4.6E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 1.6E-08 | N/A | 8.2E-09 | 2.4E-08 | | | | | | |
| | | | 4-Nitroaniline | 1.6E-08 | N/A | 8.2E-09 | 2.4E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h,)anthracene | 2.3E-06 | N/A | 1.6E-06 | 3.9E-06 | | | | | | |
| | | | Hexachlorobenzene | 5.0E-07 | N/A | 2.6E-07 | 7.6E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 4.1E-07 | N/A | 2.8E-07 | 6.9E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 3.4E-07 | N/A | 1.8E-07 | 5.3E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.2E-06 | N/A | 1.2E-06 | 3.3E-06 | | | | | | |
| | | | (Total) | 2.7E-05 | N/A | 1.4E-05 | 4.1E-05 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.6.RME.UA

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 2 | Arsenic | N/A | 6.9E-08 | N/A | 6.9E-08 | | | | | | |
| | | | Benzo(a)pyrene | N/A | 7.9E-05 | N/A | 7.9E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | 9.4E-06 | N/A | 9.4E-06 | | | | | | |
| | | | Chromium | N/A | 6.8E-07 | N/A | 6.8E-07 | | | | | | |
| | | | Benzene | N/A | 1.9E-08 | N/A | 1.9E-08 | | | | | | |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | Acetophone | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | 1.1E-10 | N/A | 1.1E-10 | | | | | | |
| | | | (Total) | N/A | 9.0E-05 | N/A | 9.0E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 4.0E-07 | N/A | 1.6E-07 | 5.6E-07 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 9.7E-10 | N/A | 6.6E-09 | 7.5E-09 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 6.4E-07 | N/A | 9.3E-04 | 9.3E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 6.4E-08 | N/A | 9.6E-05 | 9.6E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 3.5E-09 | N/A | 1.6E-08 | 2.0E-08 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.0E-09 | N/A | 3.7E-09 | 4.7E-09 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 2.5E-08 | N/A | 1.1E-07 | 1.3E-07 | | | | | | |
| | | | 1,2-Dibromoethane | 1.5E-08 | N/A | 2.3E-08 | 3.8E-08 | | | | | | |
| | | | 1,2-Dichloroethane | 1.6E-09 | N/A | 3.4E-09 | 5.0E-09 | | | | | | |
| | | | 1,2-Dichloropropane | 1.2E-09 | N/A | 4.9E-09 | 6.1E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 1.1E-09 | N/A | 3.3E-09 | 4.4E-09 | | | | | | |
| | | | Carbon Tetrachloride | 2.3E-09 | N/A | 2.2E-08 | 2.5E-08 | | | | | | |
| | | | Dibromochloromethane | 1.5E-09 | N/A | 3.2E-09 | 4.7E-09 | | | | | | |
| | | | Tetrachloroethene | 9.2E-10 | N/A | 2.0E-08 | 2.1E-08 | | | | | | |
| | | | Vinyl chloride | 1.3E-08 | N/A | 6.4E-08 | 7.6E-08 | | | | | | |
| | | | cis-1,3-Dichloropropene | 1.8E-09 | N/A | 4.0E-09 | 5.8E-09 | | | | | | |
| | | | trans-1,3-Dichloropropene | 1.8E-09 | N/A | 4.0E-09 | 5.8E-09 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 9.7E-10 | N/A | 2.8E-08 | 2.9E-08 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 4.0E-08 | N/A | 6.6E-07 | 7.0E-07 | | | | | | |
| | | | 3-Nitroaniline | 7.0E-09 | N/A | 8.7E-09 | 1.6E-08 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |

TABLE 9.6.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 4-Nitroaniline | 7.0E-09 | N/A | 9.0E-09 | 1.6E-08 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 6.4E-08 | N/A | 4.5E-05 | 4.5E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 6.4E-09 | N/A | 8.7E-06 | 8.7E-06 | | | | | | |
| | | | Chrysene | 6.4E-10 | N/A | 4.5E-07 | 4.5E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 6.4E-07 | N/A | 1.9E-03 | 1.9E-03 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 1.4E-07 | N/A | 3.9E-05 | 3.9E-05 | | | | | | |
| | | | Hexachlorobutadiene | 6.9E-09 | N/A | 8.0E-07 | 8.1E-07 | | | | | | |
| | | | Hexachloroethane | 1.2E-09 | N/A | 4.2E-08 | 4.3E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 6.4E-08 | N/A | 1.2E-04 | 1.2E-04 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.1E-08 | N/A | 8.7E-06 | 8.7E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 9.7E-08 | N/A | 1.0E-06 | 1.1E-06 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.2E-09 | N/A | 1.8E-07 | 1.8E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 6.2E-07 | N/A | 7.5E-07 | 1.4E-06 | | | | | | |
| | | | (Total) | 2.9E-06 | N/A | 3.1E-03 | 3.1E-03 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 1.3E-06 | N/A | 1.2E-05 | 1.3E-05 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 2.4E-10 | N/A | 3.7E-10 | 6.2E-10 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 1.2E-06 | N/A | 5.0E-05 | 5.1E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.2E-07 | N/A | 5.0E-06 | 5.1E-06 | | | | | | |
| | | | Chrysene | 1.3E-09 | N/A | 5.3E-08 | 5.4E-08 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.3E-08 | N/A | 5.3E-07 | 5.4E-07 | | | | | | |
| | | | 1,2-Dibromoethane | 3.8E-09 | N/A | 3.5E-08 | 3.8E-08 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.9E-09 | N/A | 5.8E-08 | 5.9E-08 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 7.7E-08 | N/A | 2.4E-06 | 2.4E-06 | | | | | | |
| | | | 3-Nitroaniline | 8.9E-09 | N/A | 2.7E-07 | 2.8E-07 | | | | | | |
| | | | 4-Nitroaniline | 8.9E-09 | N/A | 2.7E-07 | 2.8E-07 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 1.2E-07 | N/A | 5.0E-06 | 5.1E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.2E-06 | N/A | 5.0E-05 | 5.1E-05 | | | | | | |
| | | | Hexachlorobenzene | 2.7E-07 | N/A | 3.7E-05 | 3.8E-05 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.2E-07 | N/A | 5.0E-06 | 5.1E-06 | | | | | | |
| | | | Pentachlorophenol | 5.3E-08 | N/A | 5.4E-06 | 5.5E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.9E-07 | N/A | 5.8E-06 | 5.9E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 1.2E-06 | [illegible] | 3.7E-05 | 3.8E-05 | | | | | | |
| | | | (Total) | 6.0E-06 | N/A | 2.1E-04 | 2.2E-04 | (Total) | | N/A | N/A | N/A | N/A |

TABLE ... ME.UA

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | | | | Total Risk Across Surface Soil | 2.7E-05 | | | | | | |
| | | | | | | Total Risk Across Subsurface Soil | 1.3E-04 | | | | | | |
| | | | | | | Total Risk Across Surface Water | 3.1E-03 | | | | | | |
| | | | | | | Total Risk Across Sediment | 2.2E-04 | | | | | | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 1.1E-03 | | | | | | |

TABLE 9.7.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 4.1E-08 | N/A | 1.6E-08 | 5.7E-08 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 4.4E-12 | N/A | 0.0E+00 | 4.4E-12 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 4.2E-08 | N/A | 7.0E-08 | 1.1E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 4.2E-09 | N/A | 6.9E-09 | 1.1E-08 | | | | | | |
| | | | Benzo(a)anthracene | 4.8E-09 | N/A | 8.0E-09 | 1.3E-08 | | | | | | |
| | | | Chrysene | 4.8E-11 | N/A | 8.0E-11 | 1.3E-10 | | | | | | |
| | | | Indeno(1,2,3-c,d)pyrene | 4.8E-09 | N/A | 8.0E-09 | 1.3E-08 | | | | | | |
| | | | benzo(k)fluoranthene | 4.8E-10 | N/A | 8.0E-10 | 1.3E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 2.9E-10 | N/A | 3.7E-10 | 6.6E-10 | | | | | | |
| | | | 4-Nitroaniline | 2.9E-10 | N/A | 3.7E-10 | 6.6E-10 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 4.2E-08 | N/A | 7.0E-08 | 1.1E-07 | | | | | | |
| | | | Hexachlorobenzene | 9.2E-09 | N/A | 1.2E-08 | 2.1E-08 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 6.3E-09 | N/A | 8.1E-09 | 1.4E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 4.0E-08 | N/A | 5.1E-08 | 9.1E-08 | | | | | | |
| | | | (Total) | 2.0E-07 | N/A | 2.5E-07 | 4.5E-07 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 2.1E-09 | N/A | 2.1E-08 | 2.3E-08 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 4.6E-11 | N/A | 7.4E-10 | 7.9E-10 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 3.1E-08 | N/A | 4.3E-05 | 4.3E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 3.1E-09 | N/A | 4.4E-06 | 4.4E-06 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.7E-10 | N/A | 1.5E-09 | 1.7E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 4.8E-11 | N/A | 3.8E-10 | 4.2E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-09 | N/A | 8.0E-09 | 9.2E-09 | | | | | | |
| | | | 1,2-Dibromoethane | 7.1E-10 | N/A | 2.0E-09 | 2.7E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 7.6E-11 | N/A | 3.8E-10 | 4.6E-10 | | | | | | |
| | | | 1,2-Dichloropropane | 5.7E-11 | N/A | 5.3E-10 | 5.9E-10 | | | | | | |

TABLE 9.7.CT.UA

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 5.2E-11 | N/A | 3.1E-10 | 3.6E-10 | | | | | | |
| | | | Carbon Tetrachloride | 1.1E-10 | N/A | 2.1E-09 | 2.2E-09 | | | | | | |
| | | | Dibromochloromethane | 7.0E-11 | N/A | 2.7E-10 | 3.4E-10 | | | | | | |
| | | | Tetrachloroethene | 4.4E-11 | N/A | 1.7E-09 | 1.8E-09 | | | | | | |
| | | | Vinyl chloride | 6.0E-10 | N/A | 3.8E-09 | 4.4E-09 | | | | | | |
| | | | cis-1,3-Dichloropropene | 8.4E-11 | N/A | 4.3E-10 | 5.1E-10 | | | | | | |
| | | | trans-1,3-Dichloropropene | 8.4E-11 | N/A | 4.3E-10 | 5.1E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 4.6E-11 | N/A | 2.2E-09 | 2.2E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.9E-09 | N/A | 4.4E-08 | 4.6E-08 | | | | | | |
| | | | 3-Nitroaniline | 3.4E-10 | N/A | 8.9E-10 | 1.2E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 3.4E-10 | N/A | 9.2E-10 | 1.3E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 3.1E-09 | N/A | 2.2E-06 | 2.2E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | 3.1E-10 | N/A | 4.0E-07 | 4.0E-07 | | | | | | |
| | | | Chrysene | 3.1E-11 | N/A | 2.2E-08 | 2.2E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.1E-08 | N/A | 8.2E-05 | 8.2E-05 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 6.7E-09 | N/A | 2.0E-06 | 2.0E-06 | | | | | | |
| | | | Hexachlorobutadiene | 3.3E-10 | N/A | 4.6E-08 | 4.6E-08 | | | | | | |
| | | | Hexachloroethane | 5.9E-11 | N/A | 2.9E-09 | 2.9E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-09 | N/A | 5.2E-06 | 5.2E-06 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 5.0E-10 | N/A | 4.1E-07 | 4.1E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.6E-09 | N/A | 1.0E-07 | 1.1E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 5.9E-11 | N/A | 8.7E-09 | 8.7E-09 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.9E-08 | N/A | 7.8E-08 | 1.1E-07 | | | | | | |
| | | | (Total) | 1.2E-07 | N/A | 1.4E-04 | 1.4E-04 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Soil | 4.5E-07 |
| Total Risk Across Surface Water | 1.4E-04 |
| Total Risk Across All Media and All Exposure Routes | 1.4E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | |

TABLE 9.8.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 5.9E-08 | N/A | 2.7E-08 | 8.6E-08 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 1.4E-10 | N/A | 1.1E-09 | 1.3E-09 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 9.5E-08 | N/A | 1.6E-04 | 1.6E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 9.5E-09 | N/A | 1.6E-05 | 1.6E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 5.2E-10 | N/A | 2.8E-09 | 3.3E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.5E-10 | N/A | 6.2E-10 | 7.7E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 3.6E-09 | N/A | 1.8E-08 | 2.2E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 2.2E-09 | N/A | 3.9E-09 | 6.1E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 2.4E-10 | N/A | 5.8E-10 | 8.1E-10 | | | | | | |
| | | | 1,2-Dichloropropane | 1.8E-10 | N/A | 8.4E-10 | 1.0E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 1.6E-10 | N/A | 5.6E-10 | 7.2E-10 | | | | | | |
| | | | Carbon Tetrachloride | 3.4E-10 | N/A | 3.8E-09 | 4.2E-09 | | | | | | |
| | | | Dibromochloromethane | 2.2E-10 | N/A | 5.5E-10 | 7.7E-10 | | | | | | |
| | | | Tetrachloroethene | 1.4E-10 | N/A | 3.4E-09 | 3.5E-09 | | | | | | |
| | | | Vinyl chloride | 1.9E-09 | N/A | 5.6E-09 | 7.4E-09 | | | | | | |
| | | | cis-1,3-Dichloropropene | 2.6E-10 | N/A | 6.8E-10 | 9.4E-10 | | | | | | |
| | | | trans-1,3-Dichloropropene | 2.6E-10 | N/A | 6.8E-10 | 9.4E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.4E-10 | N/A | 4.7E-09 | 4.8E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 5.9E-09 | N/A | 1.1E-07 | 1.2E-07 | | | | | | |
| | | | 3-Nitroaniline | 1.0E-09 | N/A | 1.5E-09 | 2.5E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 1.0E-09 | N/A | 1.5E-09 | 2.6E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |

TABLE 9.8.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Benzo(a)anthracene | 9.5E-09 | N/A | 7.7E-06 | 7.7E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | 9.5E-10 | N/A | 1.5E-06 | 1.5E-06 | | | | | | |
| | | | Chrysene | 9.5E-11 | N/A | 7.7E-08 | 7.7E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 9.5E-08 | N/A | 3.2E-04 | 3.2E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 2.1E-08 | N/A | 6.6E-06 | 6.6E-06 | | | | | | |
| | | | Hexachlorobutadiene | 1.0E-09 | N/A | 1.4E-07 | 1.4E-07 | | | | | | |
| | | | Hexachloroethane | 1.8E-10 | N/A | 7.2E-09 | 7.4E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 9.5E-09 | N/A | 2.0E-05 | 2.0E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.6E-09 | N/A | 1.5E-06 | 1.5E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.4E-08 | N/A | 1.8E-07 | 1.9E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.8E-10 | N/A | 3.1E-08 | 3.1E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 9.1E-08 | N/A | 1.3E-07 | 2.2E-07 | | | | | | |
| | | | (Total) | 4.3E-07 | N/A | 5.3E-04 | 5.3E-04 | (Total) | | N/A | N/A | N/A | N/A |

Total Risk Across Surface Water: 5.3E-04

Total Risk Across All Media and All Exposure Routes: 5.3E-04

Total Hazard Index Across All Media and All Exposure Routes:

TABLE 9.9.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Upper Aquifer - Tap Water | Chromium | 0.0E+00 | N/A | N/A | 0.0E+00 | Chromium | NOAEL | 1.4E-03 | N/A | N/A | 1.4E-03 |
| | | | Benzene | 5.7E-08 | N/A | N/A | 5.7E-08 | Benzene | Blood | 3.5E-04 | N/A | N/A | 3.5E-04 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | N/A | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 1.8E-04 | N/A | N/A | 1.8E-04 |
| | | | Arsenic | 3.1E-05 | N/A | N/A | 3.1E-05 | Arsenic | Skin, Vascular | 8.1E-03 | N/A | N/A | 8.1E-03 |
| | | | Benzo(a)pyrene | 3.1E-06 | N/A | N/A | 3.1E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 0.0E+00 | N/A | N/A | 0.0E+00 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 1.6E-07 | N/A | N/A | 1.6E-07 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 1.4E-05 | N/A | N/A | 1.4E-05 |
| | | | 1,1,2-Trichloroethane | 4.7E-08 | N/A | N/A | 4.7E-08 | 1,1,2-Trichloroethane | Blood | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-06 | N/A | N/A | 1.2E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dibromoethane | 7.0E-07 | N/A | N/A | 7.0E-07 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,2-Dichloroethane | 7.5E-08 | N/A | N/A | 7.5E-08 | 1,2-Dichloroethane | Liver | 2.7E-05 | N/A | N/A | 2.7E-05 |
| | | | 1,2-Dichloropropane | 5.6E-08 | N/A | N/A | 5.6E-08 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 2.7E-05 | N/A | N/A | 2.7E-05 |
| | | | 1,4-Dichlorobenzene | 2.0E-08 | N/A | N/A | 2.0E-08 | 1,4-Dichlorobenzene | Liver | 2.7E-05 | N/A | N/A | 2.7E-05 |
| | | | Bromodichloromethane | 5.1E-08 | N/A | N/A | 5.1E-08 | Bromodichloromethane | Kidney | 4.1E-05 | N/A | N/A | 4.1E-05 |
| | | | Bromoform | 6.5E-09 | N/A | N/A | 6.5E-09 | Bromoform | Liver | 4.1E-05 | N/A | N/A | 4.1E-05 |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | Bromomethane | Gastrointestinal | 5.9E-04 | N/A | N/A | 5.9E-04 |
| | | | Carbon tetrachloride | 1.1E-07 | N/A | N/A | 1.1E-07 | Carbon tetrachloride | Liver | 1.2E-03 | N/A | N/A | 1.2E-03 |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | Chloroform | Liver | 8.2E-05 | N/A | N/A | 8.2E-05 |
| | | | Dibromochloromethane | 6.9E-08 | N/A | N/A | 6.9E-08 | Dibromochloromethane | Liver | 4.1E-05 | N/A | N/A | 4.1E-05 |
| | | | Tetrachloroethene | 4.3E-08 | N/A | N/A | 4.3E-08 | Tetrachloroethene | Liver, Whole Body | 8.2E-05 | N/A | N/A | 8.2E-05 |
| | | | Vinyl chloride | 5.9E-07 | N/A | N/A | 5.9E-07 | Vinyl chloride | Liver | 2.7E-04 | N/A | N/A | 2.7E-04 |
| | | | cis-1,3-Dichloropropene | 8.2E-08 | N/A | N/A | 8.2E-08 | cis-1,3-Dichloropropene | Chronic Irritation | 2.7E-05 | N/A | N/A | 2.7E-05 |
| | | | trans-1,3-Dichloropropene | 8.2E-08 | N/A | N/A | 8.2E-08 | trans-1,3-Dichloropropene | Chronic Irritation | 2.7E-05 | N/A | N/A | 2.7E-05 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 4.7E-08 | N/A | N/A | 4.7E-08 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 8.5E-03 | N/A | N/A | 8.5E-03 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 4.2E-03 | N/A | N/A | 4.2E-03 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Chlorophenol | Reproduction | 8.5E-04 | N/A | N/A | 8.5E-04 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.9E-06 | N/A | N/A | 1.9E-06 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |

TABLE 9.9.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3-Nitroaniline | 3.4E-07 | N/A | N/A | 3.4E-07 | 3-Nitroaniline | N/A | 5.7E-02 | N/A | N/A | 5.7E-02 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 1.7E-01 | N/A | N/A | 1.7E-01 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | 4-Methylphenol | CNS, Resp., Whole Body | 8.5E-04 | N/A | N/A | 8.5E-04 |
| | | | 4-Nitroaniline | 3.4E-07 | N/A | N/A | 3.4E-07 | 4-Nitroaniline | N/A | 5.7E-03 | N/A | N/A | 5.7E-03 |
| | | | Benzo(a)anthracene | 3.1E-06 | N/A | N/A | 3.1E-06 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 3.1E-07 | N/A | N/A | 3.1E-07 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Chrysene | 3.1E-08 | N/A | N/A | 3.1E-08 | Chrysene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 3.1E-05 | N/A | N/A | 3.1E-05 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | Dibenzofuran | N/A | 1.1E-03 | N/A | N/A | 1.1E-03 |
| | | | Hexachlorobenzene | 6.8E-06 | N/A | N/A | 6.8E-06 | Hexachlorobenzene | Liver | 5.3E-03 | N/A | N/A | 5.3E-03 |
| | | | Hexachlorobutadiene | 3.3E-07 | N/A | N/A | 3.3E-07 | Hexachlorobutadiene | Kidney | 2.1E-02 | N/A | N/A | 2.1E-02 |
| | | | Hexachloroethane | 5.9E-08 | N/A | N/A | 5.9E-08 | Hexachloroethane | Kidney | 4.2E-03 | N/A | N/A | 4.2E-03 |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-06 | N/A | N/A | 3.1E-06 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | Naphthalene | Decreased Body Weight | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 8.5E-03 | N/A | N/A | 8.5E-03 |
| | | | Pentachlorophenol | 5.1E-07 | N/A | N/A | 5.1E-07 | Pentachlorophenol | Liver, Kidney | 1.4E-04 | N/A | N/A | 1.4E-04 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 4.7E-06 | N/A | N/A | 4.7E-06 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 5.9E-08 | N/A | N/A | 5.9E-08 | bis(2-Ethylhexyl)phthalate | Liver | 2.1E-04 | N/A | N/A | 2.1E-04 |
| | | | n-Nitroso-di-n-propylamine | 3.0E-05 | N/A | N/A | 3.0E-05 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | N/A | 0.0E+00 |
| | | | (Total) | 1.2E-04 | N/A | N/A | 1.2E-04 | (Total) | (Total) | 3.0E-01 | N/A | N/A | 3.0E-01 |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 8.0E-08 | N/A | 5.4E-08 | 1.3E-07 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 8.4E-12 | N/A | 0.0E+00 | 8.4E-12 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 8.0E-08 | N/A | 2.4E-07 | 3.2E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 8.0E-09 | N/A | 2.4E-08 | 3.2E-08 | | | | | | |
| | | | Benzo(a)anthracene | 9.2E-09 | N/A | 0.0E+00 | 9.2E-09 | | | | | | |
| | | | Chrysene | 9.2E-11 | N/A | 0.0E+00 | 9.2E-11 | | | | | | |
| | | | Indeno(1,2,3-c,d)pyrene | 9.2E-09 | N/A | 0.0E+00 | 9.2E-09 | | | | | | |
| | | | benzo(k)fluoranthene | 9.2E-10 | N/A | 0.0E+00 | 9.2E-10 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 5.6E-10 | N/A | 1.3E-09 | 1.8E-09 | | | | | | |
| | | | 4-Nitroaniline | 5.6E-10 | N/A | 1.3E-09 | 1.8E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 8.0E-08 | N/A | 2.4E-07 | 3.2E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.8E-08 | N/A | 4.0E-08 | 5.8E-08 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.2E-08 | N/A | 2.8E-08 | 4.0E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 7.7E-08 | N/A | 1.8E-07 | 2.5E-07 | | | | | | |

TABLE 9.9.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | (Total) | 3.8E-07 | N/A | 8.0E-07 | 1.2E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 8.6E-08 | N/A | 2.0E-06 | 2.1E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 8.6E-09 | N/A | 2.0E-07 | 2.1E-07 | | | | | | |
| | | | Benzo(a)anthracene | 9.5E-09 | N/A | 2.2E-07 | 2.3E-07 | | | | | | |
| | | | Chrysene | 9.5E-11 | N/A | 2.2E-09 | 2.3E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 9.5E-10 | N/A | 2.2E-08 | 2.3E-08 | | | | | | |
| | | | Arsenic | 2.6E-07 | N/A | 5.9E-06 | 6.1E-06 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 9.3E-12 | N/A | 0.0E+00 | 9.3E-12 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,2-Dibromoethane | 1.4E-10 | N/A | 3.3E-09 | 3.4E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 6.0E-10 | N/A | 1.4E-08 | 1.4E-08 | | | | | | |
| | | | 4-Nitroaniline | 6.0E-10 | N/A | 1.4E-08 | 1.4E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h,)anthracene | 8.6E-08 | N/A | 2.0E-06 | 2.1E-06 | | | | | | |
| | | | Hexachlorobenzene | 1.9E-08 | N/A | 4.3E-07 | 4.5E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 8.6E-09 | N/A | 2.0E-07 | 2.1E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.3E-08 | N/A | 3.0E-07 | 3.1E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 8.3E-08 | N/A | 1.9E-06 | 2.0E-06 | | | | | | |
| | | | (Total) | 5.7E-07 | N/A | 1.3E-05 | 1.4E-05 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 3.8E-09 | N/A | 5.5E-09 | 9.4E-09 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 8.3E-11 | N/A | 2.1E-09 | 2.1E-09 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 5.5E-08 | N/A | 2.9E-04 | 2.9E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.5E-09 | N/A | 3.0E-05 | 3.0E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 3.0E-10 | N/A | 5.1E-09 | 5.4E-09 | | | | | | |
| | | | 1,1,2-Trichloroethane | 8.6E-11 | N/A | 1.2E-09 | 1.2E-09 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 2.1E-09 | N/A | 3.4E-08 | 3.6E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 1.3E-09 | N/A | 7.2E-09 | 8.5E-09 | | | | | | |
| | | | 1,2-Dichloroethane | 1.4E-10 | N/A | 1.1E-09 | 1.2E-09 | | | | | | |
| | | | 1,2-Dichloropropane | 1.0E-10 | N/A | 1.5E-09 | 1.7E-09 | | | | | | |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Bromodichloromethane | 9.3E-11 | N/A | 1.0E-09 | 1.1E-09 | | | | | | |
| | | | Carbon Tetrachloride | 2.0E-10 | N/A | 7.1E-09 | 7.3E-09 | | | | | | |
| | | | Dibromochloromethane | 1.3E-10 | N/A | 1.0E-09 | 1.1E-09 | | | | | | |
| | | | Tetrachloroethene | 7.8E-11 | N/A | 6.2E-09 | 6.3E-09 | | | | | | |
| | | | Vinyl Chloride | 1.1E-09 | N/A | 1.0E | 1.1E-08 | | | | | | |
| | | | cis-1,3-dichloropropene | 1.5E-10 | N/A | 1.3 | 1.4E-09 | | | | | | |

TABLE 9.9.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | trans-1,3-dichloropropene | 1.5E-10 | N/A | 1.3E-09 | 1.4E-09 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 8.3E-11 | N/A | 8.7E-09 | 8.8E-09 | | | | | | |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 3.4E-09 | N/A | 2.1E-07 | 2.1E-07 | | | | | | |
| | | | 3-Nitroaniline | 6.0E-10 | N/A | 2.7E-09 | 3.3E-09 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 6.0E-10 | N/A | 2.8E-09 | 3.4E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 5.5E-09 | N/A | 1.4E-05 | 1.4E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 5.5E-10 | N/A | 2.7E-06 | 2.7E-06 | | | | | | |
| | | | Chrysene | 5.5E-11 | N/A | 1.4E-07 | 1.4E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 5.5E-08 | N/A | 5.9E-04 | 5.9E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 1.2E-08 | N/A | 1.2E-05 | 1.2E-05 | | | | | | |
| | | | Hexachlorobutadiene | 5.9E-10 | N/A | 2.5E-07 | 2.5E-07 | | | | | | |
| | | | Hexachloroethane | 1.1E-10 | N/A | 1.3E-08 | 1.3E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 5.5E-09 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 9.0E-10 | N/A | 2.7E-06 | 2.7E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.3E-09 | N/A | 3.3E-07 | 3.3E-07 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.1E-10 | N/A | 5.7E-08 | 5.7E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.3E-08 | N/A | 2.3E-07 | 2.9E-07 | | | | | | |
| | | | (Total) | 2.2E-07 | N/A | 9.8E-04 | 9.8E-04 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.9.CT.UA

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 2.5E-08 | N/A | 2.6E-08 | 5.1E-08 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 3.4E-12 | N/A | 5.8E-13 | 4.0E-12 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 2.0E-08 | N/A | 9.0E-08 | 1.1E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.0E-09 | N/A | 9.0E-09 | 1.1E-08 | | | | | | |
| | | | Chrysene | 3.8E-11 | N/A | 1.7E-10 | 2.1E-10 | | | | | | |
| | | | Benzo(k)fluoranthene | 3.8E-10 | N/A | 1.7E-09 | 2.1E-09 | | | | | | |
| | | | 1,2-Dibromoethane | 5.2E-11 | N/A | 5.4E-11 | 1.1E-10 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 3.0E-11 | N/A | 1.0E-10 | 1.4E-10 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.2E-09 | N/A | 4.3E-09 | 5.5E-09 | | | | | | |
| | | | 3-Nitroaniline | 5.5E-11 | N/A | 1.9E-10 | 2.5E-10 | | | | | | |
| | | | 4-Nitroaniline | 5.5E-11 | N/A | 1.9E-10 | 2.5E-10 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 2.0E-09 | N/A | 9.0E-09 | 1.1E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.0E-08 | N/A | 9.0E-08 | 1.1E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.1E-08 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 2.0E-09 | N/A | 9.0E-09 | 1.1E-08 | | | | | | |
| | | | Pentachlorophenol | 3.3E-10 | N/A | 3.8E-09 | 4.1E-09 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 5.4E-09 | N/A | 1.9E-08 | 2.4E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 3.4E-08 | N/A | 1.2E-07 | 1.5E-07 | | | | | | |
| | | | (Total) | 1.2E-07 | N/A | 3.8E-05 | 3.8E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 1.2E-04 |
| Total Risk Across Surface Soil | 1.2E-06 |
| Total Risk Across Subsurface Soil | 1.4E-05 |
| Total Risk Across Surface Water | 9.8E-04 |
| Total Risk Across Sediment | 3.8E-05 |
| Total Risk Across All Media and All Exposure Routes | 1.2E-03 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 3.0E-01 |
| Total Skin HI = | 8.1E-03 |
| Total Vascular HI = | 8.1E-03 |
| Total Liver HI = | #REF! |
| Total Whole Body HI = | 5.2E-03 |
| Total Blood HI = | 1.3E-02 |
| Total Kidney HI = | 3.8E-02 |
| Total GI HI = | 5.9E-04 |
| Total Chronic Irritation HI = | 5.5E-05 |
| Total Eyes HI = | 1.8E-01 |
| Total CNS HI = | 1.8E-01 |
| Total Reproduction HI = | 8.5E-04 |
| Total Bile Duct HI = | 4.2E-03 |
| Total Body Weight HI = | 2.1E-04 |
| Total Adrenal HI = | 8.5E-03 |
| Total NOAEL HI = | 1.4E-03 |
| Total Respiratory System HI = | 8.5E-04 |

TABLE 9.10.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Chilc

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 3.1E-03 | N/A | 4.4E-05 | 3.1E-03 |
| | | | Benzene | 1.3E-07 | N/A | 1.3E-08 | 1.4E-07 | Benzene | Blood | 7.7E-04 | N/A | 6.1E-04 | 1.4E-03 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 3.9E-04 | N/A | 8.1E-05 | 4.7E-04 |
| | | | Arsenic | 8.1E-06 | N/A | 2.0E-08 | 8.1E-06 | Arsenic | Skin, Vascular | 1.8E-02 | N/A | 2.4E-05<br>0.0E+00 | 1.8E-02 |
| | | | Benzo(a)pyrene | 6.9E-05 | N/A | 4.8E-03 | 4.9E-03 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 6.9E-06 | N/A | 5.0E-04 | 5.0E-04 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 3.7E-07 | N/A | 4.2E-08 | 4.1E-07 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 3.1E-05 | N/A | 0.0E+00<br>3.5E-06 | 3.4E-05 |
| | | | 1,1,2-Trichloroethane | 1.0E-07 | N/A | 7.7E-09 | 1.1E-07 | 1,1,2-Trichloroethane | Blood | 4.6E-04 | N/A | 3.4E-05 | 4.9E-04 |
| | | | 1,2-Dibromo-3-chloropropane | 2.6E-06 | N/A | 3.8E-07 | 2.9E-06 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 1.6E-06 | N/A | 6.5E-08 | 1.6E-06 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 1.7E-07 | N/A | 5.7E-09 | 1.7E-07 | 1,2-Dichloroethane | Liver | 6.1E-05 | N/A | 2.1E-06 | 6.3E-05 |
| | | | 1,2-Dichloropropane | 1.2E-07 | N/A | 9.2E-09 | 1.3E-07 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 1,3-Dichlorobenzene | Liver | 6.1E-05 | N/A | 5.5E-05 | 1.2E-04 |
| | | | 1,4-Dichlorobenzene | 4.4E-06 | N/A | 2.7E-08 | 7.1E-08 | 1,4-Dichlorobenzene | Liver | 6.1E-05 | N/A | 3.8E-05 | 9.9E-05 |
| | | | Bromodichloromethane | 1.1E-07 | N/A | 6.3E-09 | 1.2E-07 | Bromodichloromethane | Kidney | 9.2E-05 | N/A | 6.7E-06 | 9.8E-05 |
| | | | Bromoform | 1.4E-08 | N/A | 1.4E-09 | 1.6E-08 | Bromoform | Liver | 9.2E-05 | N/A | 9.1E-06 | 1.0E-04 |
| | | | Bromomethane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Bromomethane | Gastrointestinal | 1.3E-03 | N/A | 2.9E-05 | 1.3E-03 |
| | | | Carbon tetrachloride | 2.4E-07 | N/A | 5.8E-08 | 3.0E-07 | Carbon tetrachloride | Liver | 2.6E-03 | N/A | 6.3E-04 | 3.2E-03 |
| | | | Chloroform | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chloroform | Liver | 1.8E-04 | N/A | 1.2E-05 | 2.0E-04 |
| | | | Dibromochloromethane | 1.5E-07 | N/A | 1.0E-08 | 1.6E-07 | Dibromochloromethane | Liver | 9.2E-05 | N/A | 6.0E-06 | 9.8E-05 |
| | | | Tetrachloroethene | 9.5E-08 | N/A | 5.8E-08 | 1.5E-07 | Tetrachloroethene | Liver, Whole Body | 1.8E-04 | N/A | 1.1E-04 | 2.9E-04 |
| | | | Vinyl chloride | 2.6E-06 | N/A | 8.7E-08 | 2.7E-06 | Vinyl chloride | Liver | 6.1E-04 | N/A | 2.1E-05 | 6.3E-04 |
| | | | cis-1,3-Dichloropropene | 1.8E-07 | N/A | 7.3E-09 | 1.9E-07 | cis-1,3-Dichloropropene | Chronic Irritation | 6.1E-05 | N/A | 2.4E-06 | 6.3E-05 |
| | | | trans-1,3-Dichloropropene | 1.8E-07 | N/A | 7.3E-09 | 1.9E-07 | trans-1,3-Dichloropropene | Chronic Irritation | 6.1E-05 | N/A | 2.4E-06 | 6.3E-05 |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,2'-Oxybis(1-chloropropane) | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 1.0E-07 | N/A | 9.6E-08 | 2.0E-07 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrophenol | Eyes | 1.9E-02 | N/A | 1.1E-03 | 2.0E-02 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 9.4E-03 | N/A | 3.8E-04 | 9.8E-03 |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Chlorophenol | Reproduction | 1.9E-03 | N/A | 1.7E-04 | 2.1E-03 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 4.2E-08 | N/A | 2.7E-06 | 6.9E-06 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 7.6E-07 | N/A | 1.9E-08 | 7.8E-07 | 3-Nitroaniline | Liver, Blood, CNS | 1.3E-01 | N/A | 3.2E-03 | 1.3E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 3.8E-01 | N/A | 8.3E-03 | 3.9E-01 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4-Methylphenol | CNS, Resp., Whole Body | 1.9E-03 | N/A | 2.3E-05 | 1.9E-03 |
| | | | 4-Nitroaniline | 7.6E-07 | N/A | 2.0E-08 | 7.8E-07 | 4-Nitroaniline | Liver, Blood, CNS | 1.3E-02 | N/A | 6.8E-06 | 1.3E-02 |
| | | | Benzo(a)anthracene | 6.9E-06 | N/A | 2.3E-04 | 2.3E-04 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 6.9E-07 | N/A | 4.5E-05 | 4.5E-05 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 6.9E-08 | N/A | 2.3E-06 | 2.3E-06 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 6.9E-05 | N/A | 9.8E-03 | 9.9E-03 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 2.4E-03 | N/A | 3.3E-03 | 5.6E-03 |
| | | | Hexachlorobenzene | 1.5E-05 | N/A | 1.9E-04 | 2.1E-04 | Hexachlorobenzene | Liver | 1.2E-02 | N/A | 1.5E-01 | 1.6E-01 |
| | | | Hexachlorobutadiene | 7.3E-07 | N/A | 3.7E-06 | 4.4E-06 | Hexachlorobutadiene | Kidney | 4.7E-02 | N/A | 2.4E-01 | 2.8E-01 |
| | | | Hexachloroethane | 1.3E-07 | N/A | 1.7E-07 | 3.0E-07 | Hexachloroethane | Kidney | 9.4E-03 | N/A | 1.2E-02 | 2.1E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 0.9E-06 | N/A | 6.1E-04 | 6.2E-04 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 4.7E-04 | N/A | 2.7E-04 | 7.4E-04 |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 1.9E-02 | N/A | 1.0E-03 | 2.0E-02 |
| | | | Pentachlorophenol | 1.1E-06 | N/A | 4.4E-05 | 4.5E-05 | Pentachlorophenol | Liver, Kidney | 3.1E-04 | N/A | 1.6E-02 | 1.6E-02 |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | bis(2-Chloroethoxy)methane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Chloroethyl)ether | 1.0E-05 | N/A | 2.4E-06 | 1.3E-05 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 1.3E-07 | N/A | 7.9E-07 | 9.2E-07 | bis(2-Ethylhexyl)phthalate | Liver | 4.7E-04 | N/A | 3.3E-03 | 3.8E-03 |
| | | | n-Nitroso-di-n-propylamine | 6.6E-05 | N/A | 1.6E-06 | 6.7E-05 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 2.7E-04 | N/A | 1.6E-02 | 1.7E-02 | (Total) | | 6.7E-01 | N/A | 4.4E-01 | 1.1E+00 |

TABLE 9.10.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 5.0E-07 | N/A | 4.7E-08 | 5.4E-07 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 5.2E-11 | N/A | 0.0E+00 | 5.2E-11 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 5.0E-07 | N/A | 2.1E-07 | 7.1E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.0E-08 | N/A | 2.1E-08 | 7.1E-08 | | | | | | |
| | | | Benzo(a)anthracene | 5.7E-08 | N/A | 2.4E-08 | 8.1E-08 | | | | | | |
| | | | Chrysene | 5.7E-10 | N/A | 2.4E-10 | 8.1E-10 | | | | | | |
| | | | Indeno(1,2,3-c,d)pyrene | 5.7E-08 | N/A | 2.4E-08 | 8.1E-08 | | | | | | |
| | | | benzo(k)fluoranthene | 5.7E-09 | N/A | 2.4E-09 | 8.1E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 3.5E-09 | N/A | 1.1E-09 | 4.6E-09 | | | | | | |
| | | | 4-Nitroaniline | 3.5E-09 | N/A | 1.1E-09 | 4.6E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 5.0E-07 | N/A | 2.1E-07 | 7.1E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.1E-07 | N/A | 3.5E-08 | 1.4E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 7.5E-08 | N/A | 2.4E-08 | 9.9E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 4.8E-07 | N/A | 1.5E-07 | 6.3E-07 | | | | | | |
| | | | (Total) | 2.3E-06 | N/A | 7.5E-07 | 3.1E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 5.4E-07 | N/A | 2.2E-07 | 7.6E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.4E-08 | N/A | 2.2E-08 | 7.6E-08 | | | | | | |
| | | | Benzo(a)anthracene | 5.9E-08 | N/A | 2.4E-08 | 8.3E-08 | | | | | | |
| | | | Chrysene | 5.9E-10 | N/A | 2.4E-10 | 8.3E-10 | | | | | | |
| | | | Benzo(k)fluoranthene | 5.9E-09 | N/A | 2.4E-09 | 8.3E-09 | | | | | | |
| | | | Arsenic | 1.6E-06 | N/A | 1.5E-07 | 1.8E-06 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 5.8E-11 | N/A | 0.0E+00 | 5.8E-11 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,2-Dibromoethane | 9.0E-10 | N/A | 8.6E-11 | 9.8E-10 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 3.7E-09 | N/A | 1.2E-09 | 4.9E-09 | | | | | | |
| | | | 4-Nitroaniline | 3.7E-09 | N/A | 1.2E-09 | 4.9E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h,)anthracene | 5.4E-07 | N/A | 2.2E-07 | 7.5E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.2E-07 | N/A | 3.8E-08 | 1.6E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 5.4E-08 | N/A | 2.2E-08 | 7.6E-08 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.1E-08 | N/A | 2.8E-08 | 1.1E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.2E-07 | N/A | 1.6E-07 | 6.8E-07 | | | | | | |
| | | | (Total) | 3.6E-06 | N/A | 9.0E-07 | 4.5E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 2 | Arsenic | N/A | 1.5E-06 | N/A | 1.5E-06 | | | | | | |
| | | | Benzo(a)pyrene | N/A | 4.7E-06 | N/A | 4.7E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | 3.4E-07 | N/A | 3.4E-07 | | | | | | |
| | | | Chromium | N/A | 2.2E-07 | N/A | 2.2E-07 | | | | | | |
| | | | Benzene | N/A | 5.1E-09 | N/A | 5.1E-09 | | | | | | |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | Acetophone | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | 4.8E-10 | N/A | 4.8E-10 | | | | | | |
| | | | (Total) | N/A | 5.3E-06 | N/A | 5.3E-06 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.10.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Residen
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 1.2E-08 | N/A | 2.5E-09 | 1.4E-08 | Arsenic | Skin, Vascular | 3.1E-02 | N/A | 2.1E-05 | 3.1E-02 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 1.7E-03 | N/A | 2.0E-04 | 1.9E-03 |
| | | | Benzene | 2.6E-10 | N/A | 9.3E-10 | 1.2E-09 | Benzene | Blood | 1.8E-03 | N/A | 2.4E-06 | 1.8E-03 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | N/A | 5.5E-04 | N/A | 4.0E-07 | 5.5E-04 |
| | | | Benzo(a)pyrene | 1.7E-07 | N/A | 1.3E-04 | 1.3E-04 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.7E-08 | N/A | 1.4E-05 | 1.4E-05 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,1,2,2-Tetrachloroethane | 9.4E-10 | N/A | 2.3E-09 | 3.2E-09 | 1,1,2,2-Tetrachloroethane | Liver, Kidney | 9.1E-05 | N/A | 8.0E-08 | 9.1E-05 |
| | | | 1,1,2-Trichloroethane | 2.7E-10 | N/A | 5.2E-10 | 7.9E-10 | 1,1,2-Trichloroethane | Blood | 1.4E-03 | N/A | 9.5E-07 | 1.4E-03 |
| | | | 1,2-Dibromo-3-chloropropane | 6.6E-09 | N/A | 1.5E-08 | 2.2E-08 | 1,2-Dibromo-3-chloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 4.0E-09 | N/A | 3.2E-09 | 7.2E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dichloroethane | 4.3E-10 | N/A | 4.8E-10 | 9.1E-10 | 1,2-Dichloroethane | Liver | 1.8E-04 | N/A | 7.4E-08 | 1.8E-04 |
| | | | 1,2-Dichloropropane | 3.2E-10 | N/A | 7.0E-10 | 1.0E-09 | 1,2-Dichloropropane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Hexanone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Hexanone | CNS | 5.5E-04 | N/A | 1.9E-07 | 5.5E-04 |
| | | | Bromodichloromethane | 2.9E-10 | N/A | 4.7E-10 | 7.6E-10 | Bromodichloromethane | Kidney | 2.7E-04 | N/A | 1.6E-07 | 2.7E-04 |
| | | | Carbon Tetrachloride | 6.1E-10 | N/A | 3.2E-09 | 3.8E-09 | Carbon Tetrachloride | Liver | 7.8E-03 | N/A | 1.5E-05 | 7.8E-03 |
| | | | Dibromochloromethane | 3.9E-10 | N/A | 4.6E-10 | 8.5E-10 | Dibromochloromethane | Liver | 2.7E-04 | N/A | 1.4E-07 | 2.7E-04 |
| | | | Tetrachloroethene | 2.4E-10 | N/A | 2.8E-09 | 3.1E-09 | Tetrachloroethene | Liver/whole body | 5.5E-04 | N/A | 2.3E-06 | 5.5E-04 |
| | | | Vinyl Chloride | 6.6E-09 | N/A | 9.1E-09 | 1.6E-08 | Vinyl Chloride | Liver | 1.8E-03 | N/A | 9.0E-07 | 1.8E-03 |
| | | | cis-1,3-dichloropropene | 4.7E-10 | N/A | 5.7E-10 | 1.0E-09 | cis-1,3-dichloropropene | Skin | 1.8E-04 | N/A | 7.9E-08 | 1.8E-04 |
| | | | trans-1,3-dichloropropene | 4.7E-10 | N/A | 5.7E-10 | 1.0E-09 | trans-1,3-dichloropropene | Skin | 1.8E-04 | N/A | 4.0E-07 | 1.8E-04 |
| | | | 2,4,6-Trichlorophenol | 2.6E-10 | N/A | 3.9E-09 | 4.2E-09 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,4-Dinitrotoluene | CNS | 1.4E-02 | N/A | 5.9E-06 | 1.4E-02 |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 2.7E-02 | N/A | 8.0E-06 | 2.7E-02 |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Methylnaphthalene | Skin | 1.4E-03 | N/A | 1.9E-05 | 1.4E-03 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 1.1E-08 | N/A | 9.4E-08 | 1.0E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 1.9E-09 | N/A | 1.2E-09 | 3.1E-09 | 3-Nitroaniline | Liver, Blood, CNS | 3.6E-01 | N/A | 8.6E-05 | 3.6E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 1.1E+00 | N/A | 1.6E-03 | 1.1E+00 |
| | | | 4-Nitroaniline | 1.9E-09 | N/A | 1.3E-09 | 3.1E-09 | 4-Nitroaniline | Liver, Blood, CNS | 3.6E-02 | N/A | 8.6E-06 | 3.6E-02 |
| | | | Acenaphthylene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acenaphthylene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)anthracene | 1.7E-08 | N/A | 6.4E-06 | 6.4E-06 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 1.7E-09 | N/A | 1.2E-06 | 1.2E-06 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 1.7E-10 | N/A | 6.4E-08 | 6.4E-08 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.7E-07 | N/A | 2.7E-04 | 2.7E-04 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Dibenzofuran | Kidney | 6.8E-03 | N/A | 5.9E-05 | 6.9E-03 |
| | | | Hexachlorobenzene | 3.7E-08 | N/A | 5.5E-06 | 5.6E-06 | Hexachlorobenzene | Liver | 3.4E-02 | N/A | 1.8E-03 | 3.6E-02 |
| | | | Hexachlorobutadiene | 1.8E-09 | N/A | 1.1E-07 | 1.2E-07 | Hexachlorobutadiene | Kidney | 1.4E-01 | N/A | 3.1E-03 | 1.4E-01 |
| | | | Hexachloroethane | 3.3E-10 | N/A | 6.0E-09 | 6.3E-09 | Hexachloroethane | Kidney | 2.7E-02 | N/A | 1.8E-04 | 2.7E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 1.7E-08 | N/A | 1.7E-05 | 1.7E-05 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Naphthalene | Decreased Body Weight | 1.4E-03 | N/A | 6.5E-06 | 1.4E-03 |
| | | | Pentachlorophenol | 2.8E-09 | N/A | 1.2E-06 | 1.2E-06 | Pentachlorophenol | Kidney/liver | 9.1E-04 | N/A | 1.9E-04 | 1.1E-03 |
| | | | bis(2-Chloroethyl)ether | 2.6E-08 | N/A | 1.5E-07 | 1.7E-07 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | bis(2-Ethylhexyl)phthalate | 3.3E-10 | N/A | 2.6E-08 | 2.6E-08 | bis(2-Ethylhexyl)phthalate | Liver | 1.4E-03 | N/A | 3.9E-06 | 1.4E-03 |
| | | | n-Nitroso-di-n-propylamine | 1.6E-07 | N/A | 1.1E-07 | 2.7E-07 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 6.8E-07 | N/A | 4.4E-04 | 4.4E-04 | (Total) | | 1.8E+00 | N/A | 7.3E-03 | 1.8E+00 |

TABLE 9.10.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 1.5E-07 | N/A | 2.2E-06 | 2.4E-06 | Arsenic | Skin, Vascular | 4.0E-03 | N/A | 5.7E-02 | 6.1E-02 |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Chromium | NOAEL | 2.0E-03 | N/A | 0.0E+00 | 2.0E-03 |
| | | | Benzene | 2.1E-11 | N/A | 5.0E-11 | 7.1E-11 | Benzene | Blood | 1.5E-06 | N/A | 3.5E-06 | 5.0E-06 |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | cis-1,2-Dichloroethene | Blood | 4.5E-07 | N/A | 6.4E-06 | 6.8E-06 |
| | | | Benzo(a)pyrene | 1.3E-07 | N/A | 7.7E-06 | 7.9E-06 | Benzo(a)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 1.3E-08 | N/A | 7.7E-07 | 7.9E-07 | Benzo(b)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Chrysene | 2.4E-10 | N/A | 1.5E-08 | 1.5E-08 | Chrysene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(k)fluoranthene | 2.4E-09 | N/A | 1.5E-07 | 1.5E-07 | Benzo(k)fluoranthene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 1,2-Dibromoethane | 3.2E-10 | N/A | 4.6E-09 | 5.0E-09 | 1,2-Dibromoethane | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2,4,6-Trichlorophenol | 1.9E-10 | N/A | 9.0E-09 | 9.2E-09 | 2,4,6-Trichlorophenol | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | 2-Nitroaniline | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3,3'-Dichlorobenzidine | 7.7E-09 | N/A | 3.7E-07 | 3.8E-07 | 3,3'-Dichlorobenzidine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | 3-Nitroaniline | 3.4E-10 | N/A | 1.6E-08 | 1.7E-08 | 3-Nitroaniline | Liver, Blood, CNS | 1.7E-03 | N/A | 8.0E-02 | 8.2E-02 |
| | | | 4-Nitroaniline | 3.4E-10 | N/A | 1.6E-08 | 1.7E-08 | 4-Nitroaniline | Liver, Blood, CNS | 1.7E-04 | N/A | 8.0E-03 | 8.2E-03 |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Acetophenone | NOAEL | 2.0E-06 | N/A | 9.5E-05 | 9.7E-05 |
| | | | Benzo(a)anthracene | 1.3E-08 | N/A | 7.7E-07 | 7.9E-07 | Benzo(a)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Dibenz(a,h)anthracene | 1.3E-07 | N/A | 7.7E-06 | 7.9E-06 | Dibenz(a,h)anthracene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Hexachlorobenzene | 6.9E-08 | N/A | 3.7E-05 | 3.7E-05 | Hexachlorobenzene | Liver | 2.5E-04 | N/A | 1.2E-02 | 1.2E-02 |
| | | | Indeno(1,2,3-cd)pyrene | 1.3E-08 | N/A | 7.7E-07 | 7.9E-07 | Indeno(1,2,3-cd)pyrene | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Pentachlorophenol | 2.1E-09 | N/A | 3.3E-07 | 3.3E-07 | Pentachlorophenol | Liver/Kidney | 1.7E-05 | N/A | 2.5E-03 | 2.6E-03 |
| | | | bis(2-Chloroethyl)ether | 3.4E-08 | N/A | 1.6E-06 | 1.6E-06 | bis(2-Chloroethyl)ether | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | n-Nitroso-di-n-propylamine | 2.1E-07 | N/A | 1.0E-05 | 1.0E-05 | n-Nitroso-di-n-propylamine | N/A | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | (Total) | 7.7E-07 | N/A | 7.0E-05 | 7.1E-05 | (Total) | | 8.2E-03 | N/A | 1.6E-01 | 1.7E-01 |

| | |
|---|---|
| Total Risk Across Groundwater | 1.7E-02 |
| Total Risk Across Surface Soil | 3.1E-08 |
| Total Risk Across Subsurface Soil | 9.8E-06 |
| Total Risk Across Surface Water | 4.4E-04 |
| Total Risk Across Sediment | 7.1E-05 |
| Total Risk Across All Media and All Exposure Routes | 1.7E-02 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 1.3E+00 |
| Total Skin HI = | 1.1E-01 |
| Total Vascular HI = | 1.1E-01 |
| Total Liver HI = | 9.0E-01 |
| Total Whole Body HI = | 4.0E-02 |
| Total Blood HI = | 7.0E-01 |
| Total Kidney HI = | 6.4E-01 |
| Total GI HI = | 1.3E-03 |
| Total Chronic Irritation HI = | 1.3E-04 |
| Total Eyes HI = | 1.5E+00 |
| Total CNS HI = | 2.2E+00 |
| Total Reproduction HI = | 2.1E-03 |
| Total Bile Duct HI = | 9.6E-03 |
| Total Body Weight HI = | 2.1E-03 |
| Total NOAEL HI = | 7.0E-03 |
| Total Adrenal HI = | 7.4E-04 |

TABLE 9.11.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Chromium | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Benzene | 1.8E-07 | N/A | N/A | 1.8E-07 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Arsenic | 1.2E-05 | N/A | N/A | 1.2E-05 | | | | | | |
| | | | Benzo(a)pyrene | 1.0E-04 | N/A | N/A | 1.0E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 5.3E-07 | N/A | N/A | 5.3E-07 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.5E-07 | N/A | N/A | 1.5E-07 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 3.7E-06 | N/A | N/A | 3.7E-06 | | | | | | |
| | | | 1,2-Dibromoethane | 2.3E-06 | N/A | N/A | 2.3E-06 | | | | | | |
| | | | 1,2-Dichloroethane | 2.4E-07 | N/A | N/A | 2.4E-07 | | | | | | |
| | | | 1,2-Dichloropropane | 1.8E-07 | N/A | N/A | 1.8E-07 | | | | | | |
| | | | 1,3-Dichlorobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 1,4-Dichlorobenzene | 6.4E-08 | N/A | N/A | 6.4E-08 | | | | | | |
| | | | Bromodichloromethane | 1.6E-07 | N/A | N/A | 1.6E-07 | | | | | | |
| | | | Bromoform | 2.1E-08 | N/A | N/A | 2.1E-08 | | | | | | |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Carbon tetrachloride | 3.5E-07 | N/A | N/A | 3.5E-07 | | | | | | |
| | | | Chloroform | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Dibromochloromethane | 2.2E-07 | N/A | N/A | 2.2E-07 | | | | | | |
| | | | Tetrachloroethene | 1.4E-07 | N/A | N/A | 1.4E-07 | | | | | | |
| | | | Vinyl chloride | 3.7E-06 | N/A | N/A | 3.7E-06 | | | | | | |
| | | | cis-1,3-Dichloropropene | 2.7E-07 | N/A | N/A | 2.7E-07 | | | | | | |
| | | | trans-1,3-Dichloropropene | 2.7E-07 | N/A | N/A | 2.7E-07 | | | | | | |
| | | | 2,2'-Oxybis(1-chloropropane) | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.5E-07 | N/A | N/A | 1.5E-07 | | | | | | |
| | | | 2,4-Dinitrophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Chlorophenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 6.1E-06 | N/A | N/A | 6.1E-06 | | | | | | |

TABLE 9.11.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3-Nitroaniline | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Methylphenol | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | Benzo(a)anthracene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.0E-06 | N/A | N/A | 1.0E-06 | | | | | | |
| | | | Chrysene | 1.0E-07 | N/A | N/A | 1.0E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.0E-04 | N/A | N/A | 1.0E-04 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 2.2E-05 | N/A | N/A | 2.2E-05 | | | | | | |
| | | | Hexachlorobutadiene | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | Hexachloroethane | 1.9E-07 | N/A | N/A | 1.9E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.6E-06 | N/A | N/A | 1.6E-06 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.5E-05 | N/A | N/A | 1.5E-05 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.9E-07 | N/A | N/A | 1.9E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 9.5E-05 | N/A | N/A | 9.5E-05 | | | | | | |
| | | | (Total) | 4.0E-04 | N/A | 0.0E+00 | 4.0E-04 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 5.7E-07 | N/A | 1.0E-07 | 6.8E-07 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 6.1E-11 | N/A | 0.0E+00 | 6.1E-11 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 5.8E-07 | N/A | 4.5E-07 | 1.0E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.8E-08 | N/A | 4.5E-08 | 1.0E-07 | | | | | | |
| | | | Benzo(a)anthracene | 6.7E-08 | N/A | 0.0E+00 | 6.7E-08 | | | | | | |
| | | | Chrysene | 6.7E-10 | N/A | 0.0E+00 | 6.7E-10 | | | | | | |
| | | | Indeno(1,2,3-c,d)pyrene | 6.7E-08 | N/A | 0.0E+00 | 6.7E-08 | | | | | | |
| | | | benzo(k)fluoranthene | 6.7E-09 | N/A | 0.0E+00 | 6.7E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 4.0E-09 | N/A | 2.4E-09 | 6.4E-09 | | | | | | |

TABLE 9.11.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 4-Nitroaniline | 4.0E-09 | N/A | 2.4E-09 | 6.4E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 5.8E-07 | N/A | 4.5E-07 | 1.0E-06 | | | | | | |
| | | | Hexachlorobenzene | 1.3E-07 | N/A | 7.5E-08 | 2.0E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.7E-08 | N/A | 5.2E-08 | 1.4E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.6E-07 | N/A | 3.3E-07 | 8.9E-07 | | | | | | |
| | | | (Total) | 2.7E-06 | N/A | 1.5E-06 | 4.2E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 6.2E-07 | N/A | 4.8E-07 | 1.1E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 6.2E-08 | N/A | 4.8E-08 | 1.1E-07 | | | | | | |
| | | | Benzo(a)anthracene | 6.8E-08 | N/A | 5.2E-08 | 1.2E-07 | | | | | | |
| | | | Chrysene | 6.8E-10 | N/A | 5.2E-10 | 1.2E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 6.8E-09 | N/A | 5.2E-09 | 1.2E-08 | | | | | | |
| | | | Arsenic | 1.9E-06 | N/A | 3.3E-07 | 2.2E-06 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 6.7E-11 | N/A | 0.0E+00 | 6.7E-11 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,2-Dibromoethane | 1.0E-09 | N/A | 1.8E-10 | 1.2E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 4.3E-09 | N/A | 2.5E-09 | 6.9E-09 | | | | | | |
| | | | 4-Nitroaniline | 4.3E-09 | N/A | 2.5E-09 | 6.9E-09 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenzo(a,h,)anthracene | 6.2E-07 | N/A | 4.8E-07 | 1.1E-06 | | | | | | |
| | | | Hexachlorobenzene | 1.4E-07 | N/A | 8.1E-08 | 2.2E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 6.2E-08 | N/A | 4.8E-08 | 1.1E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 9.4E-08 | N/A | 5.5E-08 | 1.5E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 6.0E-07 | N/A | 3.5E-07 | 9.5E-07 | | | | | | |
| | | | (Total) | 4.2E-06 | N/A | 1.9E-06 | 6.1E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Air | Emissions from Exposed Subsurface Soil at Site 2 | Arsenic | N/A | 2.3E-08 | N/A | 2.3E-08 | | | | | | |
| | | | Benzo(a)pyrene | N/A | 7.2E-06 | N/A | 7.2E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | 5.3E-07 | N/A | 5.3E-07 | | | | | | |
| | | | Chromium | N/A | 3.3E-07 | N/A | 3.3E-07 | | | | | | |
| | | | Benzene | N/A | 7.9E-09 | N/A | 7.9E-09 | | | | | | |
| | | | cis-1,2-Dichloroethene | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | Acetophone | N/A | 0.0E+00 | N/A | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | 4.6E-11 | N/A | 4.6E-11 | | | | | | |
| | | | (Total) | N/A | 8.1E-06 | N/A | 8.1E-06 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 9.11.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 1.8E-07 | N/A | 2.2E-06 | 2.4E-06 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | 2.4E-11 | N/A | 5.1E-11 | 7.5E-11 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 1.5E-07 | N/A | 7.8E-06 | 8.0E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.5E-08 | N/A | 7.8E-07 | 8.0E-07 | | | | | | |
| | | | Chrysene | 2.7E-10 | N/A | 1.5E-08 | 1.5E-08 | | | | | | |
| | | | Benzo(k)fluoranthene | 2.7E-09 | N/A | 1.5E-07 | 1.5E-07 | | | | | | |
| | | | 1,2-Dibromoethane | 3.8E-10 | N/A | 4.7E-09 | 5.1E-09 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 2.2E-10 | N/A | 9.1E-09 | 9.3E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 9.0E-09 | N/A | 3.7E-07 | 3.8E-07 | | | | | | |
| | | | 3-Nitroaniline | 4.0E-10 | N/A | 1.7E-08 | 1.7E-08 | | | | | | |
| | | | 4-Nitroaniline | 4.0E-10 | N/A | 1.7E-08 | 1.7E-08 | | | | | | |
| | | | Acetophenone | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)anthracene | 1.5E-08 | N/A | 7.8E-07 | 8.0E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.5E-07 | N/A | 7.8E-06 | 8.0E-06 | | | | | | |
| | | | Hexachlorobenzene | 8.0E-08 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.5E-08 | N/A | 7.8E-07 | 8.0E-07 | | | | | | |
| | | | Pentachlorophenol | 2.4E-09 | N/A | 3.3E-07 | 3.3E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 3.9E-08 | N/A | 1.6E-06 | 1.7E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.5E-07 | N/A | 1.0E-05 | 1.1E-05 | | | | | | |
| | | | (Total) | 9.0E-07 | N/A | 7.0E-05 | 7.1E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 4.0E-04 |
| Total Risk Across Surface Soil | 4.2E-06 |
| Total Risk Across Subsurface Soil | 1.4E-05 |
| Total Risk Across Sediment | 7.1E-05 |
| Total Risk Across All Media and All Exposure Routes | 4.9E-04 |

TABLE 9.12.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | Chromium | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzene | N/A | N/A | 2.7E-10 | 2.7E-10 | | | | | | |
| | | | cis-1,2-Dichloroethene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Arsenic | N/A | N/A | 1.1E-09 | 1.1E-09 | | | | | | |
| | | | Benzo(a)pyrene | N/A | N/A | 2.2E-05 | 2.2E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | N/A | 2.3E-06 | 2.3E-06 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | N/A | N/A | 4.8E-10 | 4.8E-10 | | | | | | |
| | | | 1,1,2-Trichloroethane | N/A | N/A | 1.1E-10 | 1.1E-10 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | N/A | N/A | 2.9E-09 | 2.9E-09 | | | | | | |
| | | | 1,2-Dibromoethane | N/A | N/A | 6.7E-10 | 6.7E-10 | | | | | | |
| | | | 1,2-Dichloroethane | N/A | N/A | 1.1E-10 | 1.1E-10 | | | | | | |
| | | | 1,2-Dichloropropane | N/A | N/A | 1.6E-10 | 1.6E-10 | | | | | | |
| | | | 1,3-Dichlorobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 1,4-Dichlorobenzene | N/A | N/A | 3.1E-10 | 3.1E-10 | | | | | | |
| | | | Bromodichloromethane | N/A | N/A | 9.9E-11 | 9.9E-11 | | | | | | |
| | | | Bromoform | N/A | N/A | 1.0E-11 | 1.0E-11 | | | | | | |
| | | | Bromomethane | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Carbon tetrachloride | N/A | N/A | 6.7E-10 | 6.7E-10 | | | | | | |
| | | | Chloroform | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibromochloromethane | N/A | N/A | 9.1E-11 | 9.1E-11 | | | | | | |
| | | | Tetrachloroethene | N/A | N/A | 5.7E-10 | 5.7E-10 | | | | | | |
| | | | Vinyl chloride | N/A | N/A | 1.1E-09 | 1.1E-09 | | | | | | |
| | | | cis-1,3-Dichloropropene | N/A | N/A | 1.3E-10 | 1.3E-10 | | | | | | |
| | | | trans-1,3-Dichloropropene | N/A | N/A | 1.3E-10 | 1.3E-10 | | | | | | |
| | | | 2,2'-Oxybis(1-chloropropane) | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,4,6-Trichlorophenol | N/A | N/A | 7.9E-10 | 7.9E-10 | | | | | | |
| | | | 2,4-Dinitrophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2,6-Dinitrotoluene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Chlorophenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 2-Nitroaniline | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | N/A | N/A | 1.8E-08 | 1.8E-08 | | | | | | |

TABLE 9.12.CT.UA

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | 3-Nitroaniline | N/A | N/A | 2.8E-10 | 2.8E-10 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Methylphenol | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | N/A | N/A | 2.9E-10 | 2.9E-10 | | | | | | |
| | | | Benzo(a)anthracene | N/A | N/A | 1.1E-06 | 1.1E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | N/A | N/A | 2.1E-07 | 2.1E-07 | | | | | | |
| | | | Chysene | N/A | N/A | 1.1E-08 | 1.1E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | N/A | N/A | 4.4E-05 | 4.4E-05 | | | | | | |
| | | | Dibenzofuran | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | N/A | N/A | 9.5E-07 | 9.5E-07 | | | | | | |
| | | | Hexachlorobutadiene | N/A | N/A | 2.0E-08 | 2.0E-08 | | | | | | |
| | | | Hexachloroethane | N/A | N/A | 1.1E-09 | 1.1E-09 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | N/A | N/A | 2.8E-06 | 2.8E-06 | | | | | | |
| | | | Naphthalene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | N/A | N/A | 2.1E-07 | 2.1E-07 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | N/A | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | N/A | 3.3E-08 | 3.3E-08 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | N/A | N/A | 4.4E-09 | 4.4E-09 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | N/A | N/A | 2.4E-08 | 2.4E-08 | | | | | | |
| | | | (Total) | N/A | N/A | 7.4E-05 | 7.4E-05 | (Total) | (Total) | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Groundwater | 7.4E-05 | | | | | Total Hazard Index Across All Media and All Exposure Routes | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 7.4E-05 | | | | | | |

TABLE 10.1.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | | | | | | | | | | | |
| | | | Benzo(a)pyrene | 1.9E-07 | N/A | 2.7E-09 | 1.9E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.9E-08 | N/A | 0.0E+00 | 1.9E-08 | | | | | | |
| | | | Benzo(a)anthracene | 2.0E-09 | N/A | 3.5E-09 | 5.6E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.9E-09 | N/A | 0.0E+00 | 1.9E-09 | | | | | | |
| | | | Hexachlorobenzene | 1.9E-07 | N/A | 3.5E-06 | 3.7E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 2.0E-09 | N/A | 0.0E+00 | 2.0E-09 | | | | | | |
| | | | Pentachlorophenol | 1.9E-08 | N/A | 3.3E-07 | 3.4E-07 | | | | | | |
| | | | (Total) | 4.1E-07 | N/A | 3.9E-06 | 4.3E-06 | (Total) | | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Surface Water | 4.3E-06 | | | | | Total Hazard Index Across All Media and All Exposure Routes | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 4.3E-06 | | | | | | |

TABLE 10.2.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 2.1E-05 | N/A | N/A | 2.1E-05 | Arsenic | Skin, Vascular | 1.3E-01 | N/A | N/A | 1.3E-01 |
| | | | Benzo(a)pyrene | 1.8E-04 | N/A | N/A | 1.8E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.8E-05 | N/A | N/A | 1.8E-05 | 2,4-Dinitrophenol | Eyes | 1.4E-01 | N/A | N/A | 1.4E-01 |
| | | | | | | | | 3-Nitroaniline | Liver, Blood, CNS | 9.4E-01 | N/A | N/A | 9.4E-01 |
| | | | 1,2-Dibromo-3-chloropropane | 6.6E-06 | N/A | N/A | 6.6E-06 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 2.8E+00 | N/A | N/A | 2.8E+00 |
| | | | 1,2-Dibromoethane | 4.0E-06 | N/A | N/A | 4.0E-06 | Hexachlorobutadiene | Kidney | 3.5E-01 | N/A | N/A | 3.5E-01 |
| | | | Vinyl chloride | 3.4E-06 | N/A | N/A | 3.4E-06 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 1.4E-01 | N/A | N/A | 1.4E-01 |
| | | | 3,3'-Dichlorobenzidine | 1.1E-05 | N/A | N/A | 1.1E-05 | | | | | | |
| | | | 3-Nitroaniline | 1.9E-06 | N/A | N/A | 1.9E-06 | | | | | | |
| | | | 4-Nitroaniline | 1.9E-06 | N/A | N/A | 1.9E-06 | | | | | | |
| | | | Benzo(a)anthracene | 1.8E-05 | N/A | N/A | 1.8E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.8E-06 | N/A | N/A | 1.8E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.8E-04 | N/A | N/A | 1.8E-04 | | | | | | |
| | | | Hexachlorobenzene | 3.9E-05 | N/A | N/A | 3.9E-05 | | | | | | |
| | | | Hexachlorobutadiene | 1.9E-06 | N/A | N/A | 1.9E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.8E-05 | N/A | N/A | 1.8E-05 | | | | | | |
| | | | Pentachlorophenol | 2.9E-06 | N/A | N/A | 2.9E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 2.7E-05 | N/A | N/A | 2.7E-05 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 1.7E-04 | N/A | N/A | 1.7E-04 | | | | | | |
| | | | (Total) | 6.9E-04 | N/A | N/A | 6.9E-04 | (Total) | (Total) | 4.5E+00 | N/A | N/A | 4.5E+00 |
| Surface Soil | Surface Soil | Site 2 Surface Soil | Arsenic | 2.9E-06 | N/A | 1.1E-07 | 3.0E-06 | | | | | | |
| | | | Benzo(a)pyrene | 7.4E-07 | N/A | 0.0E+00 | 7.4E-07 | | | | | | |
| | | | Dibenzo(a,h)anthracene | 0.0E+00 | N/A | 1.3E-09 | 1.3E-09 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | (Total) | 3.6E-06 | N/A | 1.1E-07 | 3.7E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Subsurface Soil | Subsurface Soil | Site 2 Subsurface Soil | Benzo(a)pyrene | 3.2E-06 | N/A | 6.6E-07 | 3.8E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.1E-07 | N/A | 8.2E-06 | 8.7E-06 | | | | | | |
| | | | Arsenic | 7.5E-10 | N/A | 5.5E-06 | 5.5E-06 | | | | | | |
| | | | Dibenzo(a,h,)anthracene | 4.7E-09 | N/A | 0.0E+00 | 4.7E-09 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 1.5E-07 | N/A | 6.2E-09 | 1.6E-07 | | | | | | |
| | | | (Total) | 3.9E-06 | N/A | 1.4E-05 | 1.8E-05 | (Total) | | N/A | N/A | N/A | N/A |

TABLE 10.2.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 2.9E-07 | N/A | 4.5E-09 | 2.9E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.9E-08 | N/A | 0.0E+00 | 2.9E-08 | | | | | | |
| | | | Benzo(a)anthracene | 3.1E-09 | N/A | 6.0E-09 | 9.1E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Chrysene | 2.9E-08 | N/A | 6.1E-09 | 3.5E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.9E-09 | N/A | 0.0E+00 | 2.9E-09 | | | | | | |
| | | | Hexachlorobenzene | 2.9E-07 | N/A | 5.9E-06 | 6.2E-06 | | | | | | |
| | | | Hexachlorobutadiene | 0.0E+00 | N/A | 3.1E-07 | 3.1E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-09 | N/A | 0.0E+00 | 3.1E-09 | | | | | | |
| | | | Pentachlorophenol | 2.9E-08 | N/A | 5.5E-07 | 5.8E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 0.0E+00 | N/A | 2.9E-08 | 2.9E-08 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 4.3E-08 | N/A | 0.0E+00 | 4.3E-08 | | | | | | |
| | | | (Total) | 7.1E-07 | N/A | 6.8E-06 | 7.5E-06 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 3.8E-07 | N/A | 1.8E-06 | 2.2E-06 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 2.2E-07 | 2.2E-07 | | | | | | |
| | | | Benzene | 7.3E-11 | N/A | 0.0E+00 | 7.3E-11 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 3.7E-07 | N/A | 7.0E-12 | 3.7E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 3.7E-08 | N/A | 0.0E+00 | 3.7E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 4.0E-09 | N/A | 9.4E-08 | 9.7E-08 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 0.0E+00 | N/A | 9.9E-10 | 9.9E-10 | | | | | | |
| | | | 2-Nitroaniline | 1.1E-09 | N/A | 9.9E-09 | 1.1E-08 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 5.6E-10 | N/A | 0.0E+00 | 5.6E-10 | | | | | | |
| | | | 3-Nitroaniline | 0.0E+00 | N/A | 6.5E-10 | 6.5E-10 | | | | | | |
| | | | 4-Nitroaniline | 2.3E-08 | N/A | 1.1E-09 | 2.4E-08 | | | | | | |
| | | | Acetophenone | 2.7E-09 | N/A | 0.0E+00 | 2.7E-09 | | | | | | |
| | | | Benzo(a)anthracene | 2.7E-09 | N/A | 4.4E-08 | 4.7E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 0.0E+00 | N/A | 5.1E-09 | 5.1E-09 | | | | | | |
| | | | Hexachlorobenzene | 3.7E-08 | N/A | 5.1E-09 | 4.3E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.7E-07 | N/A | 0.0E+00 | 3.7E-07 | | | | | | |
| | | | Pentachlorophenol | 8.2E-08 | N/A | 9.4E-08 | 1.8E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 3.7E-08 | N/A | 9.4E-07 | 9.7E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 1.6E-08 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | (Total) | 1.4E-06 | N/A | 4.1E-05 | 4.2E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 6.9E-04 |
| Total Risk Across Surface Soil | 3.7E-06 |
| Total Risk Across Subsurface Soil | 1.8E-05 |
| Total Risk Across Surface Water | 7.5E-06 |
| Total Risk Across Sediment | 4.2E-05 |
| Total Risk Across All Media and All Exposure Routes | 7.7E-04 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 4.5E+00 |
| Total Skin HI = | 1.3E-01 |
| Total Vascular HI = | 1.3E-01 |
| Total Liver HI = | 1.1E+00 |
| Total Blood HI = | 1.1E+00 |
| Total Kidney HI = | 6.3E-01 |
| Total Eyes HI = | 3.0E+00 |
| Total CNS HI = | 3.8E+00 |
| Total Adrenal HI = | 1.4E-01 |

TABLE 10.3.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.2E-05 | N/A | 9.5E-03 | 9.6E-03 | 2,4-Dinitrophenol | Eyes | 3.3E-01 | N/A | 2.6E-02 | 3.6E-01 |
| | | | Benzo(a)pyrene | 1.0E-04 | N/A | 9.9E-04 | 1.1E-03 | 2,6-Dinitrotoluene | Whole Body, CNS, Blood, Bile Duct, Kidney | 1.8E-01 | N/A | 9.9E-03 | 1.7E-01 |
| | | | Benzo(b)fluoranthene | 1.0E-05 | N/A | 0.0E+00 | 1.0E-05 | 4-Nitroaniline | Liver, Blood, CNS | 2.2E-01 | N/A | 0.0E+00 | 2.2E-01 |
| | | | | | | | | Dibenzofuran | Kidney | 4.1E-02 | N/A | 7.6E-02 | 1.2E-01 |
| | | | 1,2-Dibromo-3-chloropropane | 3.8E-06 | N/A | 7.6E-07 | 4.6E-06 | Hexachlorobenzene | Liver | 2.1E-01 | N/A | 3.5E+00 | 3.7E+00 |
| | | | 1,2-Dibromoethane | 2.3E-06 | N/A | 1.3E-07 | 2.5E-06 | Hexachlorobutadiene | Kidney | 8.2E-01 | N/A | 5.5E+00 | 6.3E+00 |
| | | | Vinyl chloride | 3.8E-06 | N/A | 1.7E-07 | 4.0E-06 | Hexachloroethane | Kidney | 1.6E-01 | N/A | 2.8E-01 | 4.4E-01 |
| | | | 3,3'-Dichlorobenzidine | 6.3E-06 | N/A | 5.3E-06 | 1.2E-05 | Nitrobenzene | Blood, Adrenal, Kidney, Liver | 3.3E-01 | N/A | 2.4E-02 | 3.5E-01 |
| | | | 3-Nitroaniline | 1.1E-06 | N/A | 3.8E-06 | 1.2E-06 | Pentachlorophenol | Liver, Kidney | 5.5E-03 | N/A | 3.7E-01 | 3.8E-01 |
| | | | 4,6-Dinitro-2-methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | bis(2-Ethylhexyl)phthalate | Liver | 8.2E-03 | N/A | 7.7E-02 | 8.5E-02 |
| | | | 4-Methylphenol | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4-Nitroaniline | 1.1E-06 | N/A | 4.0E-06 | 1.2E-06 | | | | | | |
| | | | Benzo(a)anthracene | 1.0E-05 | N/A | 4.5E-04 | 4.6E-04 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.0E-06 | N/A | 8.9E-05 | 9.0E-05 | | | | | | |
| | | | Chrysene | 1.0E-07 | N/A | 4.5E-06 | 4.6E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.0E-04 | N/A | 1.9E-02 | 2.0E-02 | | | | | | |
| | | | Dibenzofuran | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Hexachlorobenzene | 2.3E-05 | N/A | 3.8E-04 | 4.0E-04 | | | | | | |
| | | | Hexachlorobutadiene | 1.1E-06 | N/A | 7.3E-06 | 8.4E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-05 | N/A | 1.2E-03 | 1.2E-03 | | | | | | |
| | | | Naphthalene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Nitrobenzene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Pentachlorophenol | 1.7E-06 | N/A | 8.8E-05 | 9.0E-05 | | | | | | |
| | | | bis(2-Chloroethoxy)methane | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.5E-05 | N/A | 4.7E-06 | 2.0E-05 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 2.0E-07 | N/A | 1.6E-06 | 1.8E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 9.8E-05 | N/A | 3.1E-06 | 1.0E-04 | | | | | | |
| | | | (Total) | 4.1E-04 | N/A | 3.2E-02 | 3.3E-02 | (Total) | | 2.3E+00 | N/A | 9.8E+00 | 1.2E+01 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 3.3E-07 | N/A | 2.1E-09 | 3.4E-07 | Arsenic | Skin, Vascular | 5.4E-01 | N/A | 4.0E+00 | 4.6E+00 |
| | | | Benzo(b)fluoranthene | 3.3E-08 | N/A | 0.0E+00 | 3.3E-08 | 3-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 1.8E-05 | 1.8E-05 |
| | | | Benzo(a)anthracene | 3.7E-09 | N/A | 2.8E-09 | 6.4E-09 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 0.0E+00 | N/A | 4.1E-05 | 4.1E-05 |
| | | | Benzo(k)fluoranthene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | Hexachlorobutadiene | Kidney | 1.3E-02 | N/A | 0.0E+00 | 1.3E-02 |
| | | | Dibenz(a,h)anthracene | 3.3E-09 | N/A | 0.0E+00 | 3.3E-09 | | | | | | |
| | | | Hexachlorobenzene | 3.3E-07 | N/A | 2.7E-06 | 3.1E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.6E-09 | N/A | 0.0E+00 | 3.6E-09 | | | | | | |
| | | | Pentachlorophenol | 3.3E-08 | N/A | 2.5E-07 | 2.9E-07 | | | | | | |
| | | | (Total) | 7.5E-07 | N/A | 3.0E-06 | 3.7E-06 | (Total) | | 5.5E-01 | N/A | 4.0E+00 | 4.6E+00 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 8.9E-07 | N/A | 4.2E-06 | 5.1E-06 | Arsenic | Skin, Vascular | 2.3E-02 | N/A | 5.5E-02 | 7.8E-02 |
| | | | | | | | | 3-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(a)pyrene | 8.7E-07 | N/A | 3.7E-10 | 8.7E-07 | 4-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |
| | | | Benzo(b)fluoranthene | 8.7E-08 | N/A | 0.0E+00 | 8.7E-08 | Hexachlorobenzene | Liver | 0.0E+00 | N/A | 5.2E-02 | 5.2E-02 |
| | | | 3,3'-Dichlorobenzidine | 1.3E-09 | N/A | 0.0E+00 | 1.3E-09 | | | | | | |
| | | | Benzo(a)anthracene | 6.2E-09 | N/A | 2.3E-06 | 2.3E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 0.0E+00 | N/A | 2.7E-07 | 2.7E-07 | | | | | | |
| | | | Hexachlorobenzene | 8.7E-08 | N/A | 2.7E-07 | 3.5E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 8.7E-07 | N/A | 0.0E+00 | 8.7E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 8.7E-08 | N/A | 4.9E-05 | 4.9E-05 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 3.7E-08 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | (Total) | 2.9E-06 | N/A | 9.3E-05 | 9.6E-05 | (Total) | | 2.3E-02 | N/A | 1.1E-01 | 1.3E-01 |

| | |
|---|---|
| Total Risk Across Groundwater | 3.3E-02 |
| Total Risk Across Surface Water | 3.7E-06 |
| Total Risk Across Sediment | 9.6E-05 |
| Total Risk Across All Media and All Exposure Routes | 3.3E-02 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 1.7E+01 |
| Total Skin HI = | 4.7E+00 |
| Total Vascular HI = | 4.7E+00 |
| Total Liver HI = | 4.8E+00 |
| Total Whole Body HI = | 1.7E+01 |
| Total Blood HI = | 7.5E-01 |
| Total Kidney HI = | 1.4E+01 |
| Total Eyes HI = | 3.6E-01 |
| Total CNS HI = | 3.9E-01 |
| Total Bile Duct HI = | 1.7E-01 |
| Total Adrenal HI = | 3.5E-01 |

TABLE 10.4.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | Arsenic | N/A | N/A | 3.3E-05 | 3.3E-05 | | | | | | |
| | | | Benzo(a)pyrene | N/A | N/A | 2.8E-04 | 2.8E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | N/A | 2.8E-05 | 2.8E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | N/A | N/A | 1.5E-06 | 1.5E-06 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | N/A | N/A | 1.0E-05 | 1.0E-05 | | | | | | |
| | | | 1,2-Dibromoethane | N/A | N/A | 6.3E-06 | 6.3E-06 | | | | | | |
| | | | Vinyl chloride | N/A | N/A | 1.0E-05 | 1.0E-05 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | N/A | N/A | 1.7E-05 | 1.7E-05 | | | | | | |
| | | | 3-Nitroaniline | N/A | N/A | 3.1E-06 | 3.1E-06 | | | | | | |
| | | | 4-Nitroaniline | N/A | N/A | 3.1E-06 | 3.1E-06 | | | | | | |
| | | | Benzo(a)anthracene | N/A | N/A | 2.8E-05 | 2.8E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | N/A | N/A | 2.8E-06 | 2.8E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | N/A | N/A | 2.8E-04 | 2.8E-04 | | | | | | |
| | | | Hexachlorobenzene | N/A | N/A | 6.1E-05 | 6.1E-05 | | | | | | |
| | | | Hexachlorobutadiene | N/A | N/A | 3.0E-06 | 3.0E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | N/A | N/A | 2.8E-05 | 2.8E-05 | | | | | | |
| | | | Pentachlorophenol | N/A | N/A | 4.6E-06 | 4.6E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | N/A | N/A | 4.2E-05 | 4.2E-05 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | N/A | N/A | 2.7E-04 | 2.7E-04 | | | | | | |
| | | | (Total) | N/A | N/A | 1.1E-03 | 1.1E-03 | (Total) | (Total) | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Groundwater | 1.1E-03 | | | | | Total Hazard Index Across All Media and All Exposure Routes | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 1.1E-03 | | | | | | |

TABLE 10.5.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 3.3E-05 | N/A | N/A | 3.3E-05 | | | | | | |
| | | | Benzo(a)pyrene | 2.8E-04 | N/A | N/A | 2.8E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 2.8E-05 | N/A | N/A | 2.8E-05 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 1.5E-06 | N/A | N/A | 1.5E-06 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | 1,2-Dibromoethane | 6.3E-06 | N/A | N/A | 6.3E-06 | | | | | | |
| | | | Bromomethane | 0.0E+00 | N/A | N/A | 0.0E+00 | | | | | | |
| | | | Vinyl chloride | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.7E-05 | N/A | N/A | 1.7E-05 | | | | | | |
| | | | 3-Nitroaniline | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | 4-Nitroaniline | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | Benzo(a)anthracene | 2.8E-05 | N/A | N/A | 2.8E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 2.8E-06 | N/A | N/A | 2.8E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 2.8E-04 | N/A | N/A | 2.8E-04 | | | | | | |
| | | | Hexachlorobenzene | 6.1E-05 | N/A | N/A | 6.1E-05 | | | | | | |
| | | | Hexachlorobutadiene | 3.0E-06 | N/A | N/A | 3.0E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 2.8E-05 | N/A | N/A | 2.8E-05 | | | | | | |
| | | | Pentachlorophenol | 4.6E-06 | N/A | N/A | 4.6E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.2E-05 | N/A | N/A | 4.2E-05 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.7E-04 | N/A | N/A | 2.7E-04 | | | | | | |
| | | | (Total) | 1.1E-03 | N/A | 0.0E+00 | 1.1E-03 | (Total) | | N/A | N/A | N/A | N/A |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Arsenic | 4.0E-07 | N/A | 2.9E-06 | 3.3E-06 | | | | | | |
| | | | Chromium | 0.0E+00 | N/A | 1.6E-07 | 1.6E-07 | | | | | | |
| | | | Benzene | 9.7E-10 | N/A | 0.0E+00 | 9.7E-10 | | | | | | |
| | | | cis-1,2-Dichloroethene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Benzo(a)pyrene | 6.4E-07 | N/A | 6.6E-09 | 6.5E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 6.4E-08 | N/A | 0.0E+00 | 6.4E-08 | | | | | | |
| | | | 1,1,2,2-Tetrachloroethane | 3.5E-09 | N/A | 9.6E-05 | 9.6E-05 | | | | | | |
| | | | 1,1,2-Trichloroethane | 1.0E-09 | N/A | 0.0E+00 | 1.0E-09 | | | | | | |
| | | | 1,1-Dichloroethene | 2.5E-08 | N/A | 1.6E-08 | 4.1E-08 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.5E-08 | N/A | 3.7E-09 | 1.9E-08 | | | | | | |
| | | | 1,2-Dibromoethane | 1.6E-09 | N/A | 1.1E-07 | 1.1E-07 | | | | | | |
| | | | 1,2-Dichloroethane | 1.2E-09 | N/A | 2.3E-08 | 2.4E-08 | | | | | | |
| | | | 1,2-Dichloropropane | 0.0E+00 | N/A | 3.4E-09 | 3.4E-09 | | | | | | |
| | | | 2-Hexanone | 1.1E-09 | N/A | 4.9E-09 | 6.0E-09 | | | | | | |
| | | | Bromodichloromethane | 2.3E-09 | N/A | 0.0E+00 | 2.3E-09 | | | | | | |
| | | | Carbon Tetrachloride | 1.5E-09 | N/A | 3.3E-09 | 4.8E-09 | | | | | | |

TABLE 10.5.RME.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| | | | Dibromochloromethane | 9.2E-10 | N/A | 2.2E-08 | 2.3E-08 | | | | | | |
| | | | Tetrachloroethene | 1.3E-08 | N/A | 3.2E-09 | 1.6E-08 | | | | | | |
| | | | 2,4,6-Trichlorophenol | 1.8E-09 | N/A | 2.0E-08 | 2.1E-08 | | | | | | |
| | | | 2,4-Dinitrotoluene | 1.8E-09 | N/A | 6.4E-08 | 6.5E-08 | | | | | | |
| | | | 2,6-Dinitrotoluene | 9.7E-10 | N/A | 4.0E-09 | 5.0E-09 | | | | | | |
| | | | 2-Methylnaphthalene | 0.0E+00 | N/A | 4.0E-09 | 4.0E-09 | | | | | | |
| | | | 2-Nitroaniline | 0.0E+00 | N/A | 2.8E-08 | 2.8E-08 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 3-Nitroaniline | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | 4,6-Dinitro-2-methylphenol | 4.0E-08 | N/A | 0.0E+00 | 4.0E-08 | | | | | | |
| | | | 4-Nitroaniline | 7.0E-09 | N/A | 0.0E+00 | 7.0E-09 | | | | | | |
| | | | Acenaphthylene | 0.0E+00 | N/A | 6.6E-07 | 6.6E-07 | | | | | | |
| | | | Benzo(a)anthracene | 7.0E-09 | N/A | 8.7E-09 | 1.6E-08 | | | | | | |
| | | | Benzo(k)fluoranthene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Chrysene | 6.4E-08 | N/A | 9.0E-09 | 7.3E-08 | | | | | | |
| | | | Dibenz(a,h)anthracene | 6.4E-09 | N/A | 0.0E+00 | 6.4E-09 | | | | | | |
| | | | Dibenzofuran | 6.4E-10 | N/A | 4.5E-05 | 4.5E-05 | | | | | | |
| | | | Hexachlorobenzene | 6.4E-07 | N/A | 8.7E-06 | 9.3E-06 | | | | | | |
| | | | Hexachlorobutadiene | 0.0E+00 | N/A | 4.5E-07 | 4.5E-07 | | | | | | |
| | | | Hexachloroethane | 1.4E-07 | N/A | 1.9E-03 | 1.9E-03 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 6.9E-09 | N/A | 0.0E+00 | 6.9E-09 | | | | | | |
| | | | Naphthalene | 1.2E-09 | N/A | 3.9E-05 | 3.9E-05 | | | | | | |
| | | | Pentachlorophenol | 6.4E-08 | N/A | 8.0E-07 | 8.7E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 0.0E+00 | N/A | 4.2E-08 | 4.2E-08 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.1E-08 | N/A | 1.2E-04 | 1.2E-04 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 9.7E-08 | N/A | 0.0E+00 | 9.7E-08 | | | | | | |
| | | | (Total) | 2.3E-06 | N/A | 2.2E-03 | 2.2E-03 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Arsenic | 1.3E-06 | N/A | 6.0E-06 | 7.2E-06 | | | | | | |
| | | | Benzo(a)pyrene | 1.2E-06 | N/A | 3.7E-10 | 1.2E-06 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.2E-07 | N/A | 0.0E+00 | 1.2E-07 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.9E-09 | N/A | 0.0E+00 | 1.9E-09 | | | | | | |
| | | | Benzo(a)anthracene | 8.9E-09 | N/A | 2.4E-06 | 2.4E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 0.0E+00 | N/A | 2.7E-07 | 2.7E-07 | | | | | | |
| | | | Hexachlorobenzene | 1.2E-07 | N/A | 2.7E-07 | 4.0E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.2E-06 | N/A | 0.0E+00 | 1.2E-06 | | | | | | |
| | | | Pentachlorophenol | 2.7E-07 | N/A | 5.0E-06 | 5.2E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.2E-07 | N/A | 5.0E-05 | 5.0E-05 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 5.3E-08 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | (Total) | 4.5E-06 | N/A | 1.0E-04 | 1.1E-04 | (Total) | | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Groundwater | 1.1E-03 | | | | | | |
| | | | | | | Total Risk Across Surface Water | 2.2E-03 | | | | | | |
| | | | | | | Total Risk Across Sediment | 1.1E-04 | | | | | | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 3.3E-03 | | | | | | |

TABLE 10.6.CT.UA
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 3.1E-08 | N/A | 4.3E-05 | 4.3E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | 3.1E-09 | N/A | 4.4E-06 | 4.4E-06 | | | | | | |
| | | | Benzo(a)anthracene | 3.1E-09 | N/A | 2.2E-06 | 2.2E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | 3.1E-10 | N/A | 4.0E-07 | 4.0E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.1E-08 | N/A | 8.2E-05 | 8.2E-05 | | | | | | |
| | | | Hexachlorobenzene | 6.7E-09 | N/A | 2.0E-06 | 2.0E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-09 | N/A | 5.2E-06 | 5.2E-06 | | | | | | |
| | | | (Total) | 7.7E-08 | N/A | 1.4E-04 | 1.4E-04 | (Total) | | N/A | N/A | N/A | N/A |

Total Risk Across Surface Water: 1.4E-04

Total Risk Across All Media and All Exposure Routes: 1.4E-04

Total Hazard Index Across All Media and All Exposure Routes:

TABLE 10.7.CT.UA

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

RISK ASSESSMENT SUMMARY

MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adolescents

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 9.5E-08 | N/A | 1.6E-04 | 1.6E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 9.5E-09 | N/A | 1.6E-05 | 1.6E-05 | | | | | | |
| | | | Benzo(a)anthracene | 9.5E-09 | N/A | 7.7E-06 | 7.7E-06 | | | | | | |
| | | | Benzo(k)fluoranthene | 9.5E-10 | N/A | 1.5E-06 | 1.5E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 9.5E-08 | N/A | 3.2E-04 | 3.2E-04 | | | | | | |
| | | | Hexachlorobenzene | 2.1E-08 | N/A | 6.6E-06 | 6.6E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 9.5E-09 | N/A | 2.0E-05 | 2.0E-05 | | | | | | |
| | | | Pentachlorophenol | 1.6E-09 | N/A | 1.5E-06 | 1.5E-06 | | | | | | |
| | | | (Total) | 2.4E-07 | N/A | 5.3E-04 | 5.3E-04 | (Total) | | N/A | N/A | N/A | N/A |
| | | | Total Risk Across Surface Water | | | | 5.3E-04 | Total Hazard Index Across All Media and All Exposure Routes | | | | | |
| | | | Total Risk Across All Media and All Exposure Routes | | | | 5.3E-04 | | | | | | |

TABLE 10.8.CT.UA
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
RISK ASSESSMENT SUMMARY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Upper Aquifer - Tap Water | Arsenic | 3.1E-05 | N/A | N/A | 3.1E-05 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 1.7E-01 | N/A | N/A | 1.7E-01 |
| | | | Benzo(a)pyrene | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 1.2E-06 | N/A | N/A | 1.2E-06 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 1.9E-06 | N/A | N/A | 1.9E-06 | | | | | | |
| | | | Benzo(a)anthracene | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 3.1E-05 | N/A | N/A | 3.1E-05 | | | | | | |
| | | | Hexachlorobenzene | 6.8E-06 | N/A | N/A | 6.8E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 3.1E-06 | N/A | N/A | 3.1E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 4.7E-06 | N/A | N/A | 4.7E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 3.0E-05 | N/A | N/A | 3.0E-05 | | | | | | |
| | | | (Total) | 1.2E-04 | N/A | N/A | 1.2E-04 | (Total) | (Total) | 1.7E-01 | N/A | N/A | 1.7E-01 |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 5.5E-08 | N/A | 2.1E-09 | 5.7E-08 | | | | | | |
| | | | Benzo(b)fluoranthene | 5.5E-09 | N/A | 0.0E+00 | 5.5E-09 | | | | | | |
| | | | Benzo(a)anthracene | 6.0E-10 | N/A | 2.7E-09 | 3.3E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenz(a,h)anthracene | 5.5E-10 | N/A | 0.0E+00 | 5.5E-10 | | | | | | |
| | | | Hexachlorobenzene | 5.5E-08 | N/A | 2.7E-06 | 2.8E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 5.9E-10 | N/A | 0.0E+00 | 5.9E-10 | | | | | | |
| | | | Pentachlorophenol | 5.5E-09 | N/A | 2.5E-07 | 2.6E-07 | | | | | | |
| | | | (Total) | 1.2E-07 | N/A | 3.0E-06 | 3.1E-06 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 1.2E-04 |
| Total Risk Across Surface Water | 3.1E-06 |
| Total Risk Across All Media and All Exposure Routes | 1.2E-04 |
| Total Hazard Index Across All Media and All Exposure Routes | 1.7E-01 |
| Total Eyes HI = | 1.7E-01 |
| Total CNS HI = | 1.7E-01 |

TABLE 10.9.CT.UA
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 8.1E-06 | N/A | 2.0E-08 | 8.1E-06 | 3-Nitroaniline | Liver, Blood, CNS | 1.3E-01 | N/A | 3.2E-03 | 1.3E-01 |
| | | | Benzo(a)pyrene | 6.9E-05 | N/A | 4.8E-03 | 4.9E-03 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 3.8E-01 | N/A | 8.3E-03 | 3.9E-01 |
| | | | Benzo(b)fluoranthene | 6.9E-06 | N/A | 5.0E-04 | 5.0E-04 | Hexachlorobenzene | Liver | 1.2E-02 | N/A | 1.5E-01 | 1.6E-01 |
| | | | | | | | | Hexachlorobutadiene | Kidney | 4.7E-02 | N/A | 2.4E-01 | 2.8E-01 |
| | | | 1,2-Dibromo-3-chloropropane | 2.6E-06 | N/A | 3.8E-07 | 2.9E-06 | | | | | | |
| | | | 1,2-Dibromoethane | 1.6E-06 | N/A | 6.5E-08 | 1.6E-06 | | | | | | |
| | | | Vinyl chloride | 2.6E-06 | N/A | 8.7E-08 | 2.7E-06 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 4.2E-06 | N/A | 2.7E-06 | 6.9E-06 | | | | | | |
| | | | Benzo(a)anthracene | 6.9E-06 | N/A | 2.3E-04 | 2.3E-04 | | | | | | |
| | | | Benzo(k)fluoranthene | 6.9E-07 | N/A | 4.5E-05 | 4.5E-05 | | | | | | |
| | | | Chrysene | 6.9E-08 | N/A | 2.3E-06 | 2.3E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 6.9E-05 | N/A | 9.8E-03 | 9.9E-03 | | | | | | |
| | | | Hexachlorobenzene | 1.5E-05 | N/A | 1.9E-04 | 2.1E-04 | | | | | | |
| | | | Hexachlorobutadiene | 7.3E-07 | N/A | 3.7E-06 | 4.4E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 6.9E-06 | N/A | 6.1E-04 | 6.2E-04 | | | | | | |
| | | | Pentachlorophenol | 1.1E-06 | N/A | 4.4E-05 | 4.5E-05 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.0E-05 | N/A | 2.4E-06 | 1.3E-05 | | | | | | |
| | | | bis(2-Ethylhexyl)phthalate | 1.3E-07 | N/A | 7.9E-07 | 9.2E-07 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 6.6E-05 | N/A | 1.6E-06 | 6.7E-05 | | | | | | |
| | | | (Total) | 2.7E-04 | N/A | 1.6E-02 | 1.7E-02 | (Total) | | 5.6E-01 | N/A | 3.8E-01 | 9.5E-01 |

TABLE 10.9.CT.UA
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Surface Water | Surface Water | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 1.7E-07 | N/A | 9.3E-10 | 1.7E-07 | 3-Nitroaniline | Liver, Blood, CNS | 0.0E+00 | N/A | 8.0E-06 | 8.0E-06 |
| | | | Benzo(b)fluoranthene | 1.7E-08 | N/A | 0.0E+00 | 1.7E-08 | 4,6-Dinitro-2-methylphenol | CNS, Eyes | 0.0E+00 | N/A | 1.9E-05 | 1.9E-05 |
| | | | | | | | | Hexachlorobutadiene | Kidney | 6.8E-03 | N/A | 0.0E+00 | 6.8E-03 |
| | | | Benzo(a)anthracene | 1.9E-09 | N/A | 1.2E-09 | 3.1E-09 | | | | | | |
| | | | Benzo(k)fluoranthene | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.7E-09 | N/A | 0.0E+00 | 1.7E-09 | | | | | | |
| | | | Hexachlorobenzene | 1.7E-07 | N/A | 1.2E-06 | 1.4E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.8E-09 | N/A | 0.0E+00 | 1.8E-09 | | | | | | |
| | | | Pentachlorophenol | 1.7E-08 | N/A | 1.1E-07 | 1.3E-07 | | | | | | |
| | | | (Total) | 3.8E-07 | N/A | 1.4E-06 | 1.7E-06 | (Total) | | 6.8E-03 | N/A | 2.7E-05 | 6.9E-03 |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 1.3E-07 | N/A | 5.0E-11 | 1.3E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.3E-08 | N/A | 0.0E+00 | 1.3E-08 | | | | | | |
| | | | Benzo(a)anthracene | 3.4E-10 | N/A | 3.7E-07 | 3.7E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 0.0E+00 | N/A | 1.6E-08 | 1.6E-08 | | | | | | |
| | | | Hexachlorobenzene | 1.3E-08 | N/A | 1.6E-08 | 2.9E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.3E-07 | N/A | 0.0E+00 | 1.3E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.3E-08 | N/A | 7.7E-06 | 7.8E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.1E-09 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | (Total) | 2.9E-07 | N/A | 4.6E-05 | 4.6E-05 | (Total) | | 0.0E+00 | N/A | 0.0E+00 | 0.0E+00 |

| | |
|---|---|
| Total Risk Across Groundwater | 1.7E-02 |
| Total Risk Across Surface Water | 1.7E-06 |
| Total Risk Across Sediment | 4.6E-05 |
| Total Risk Across All Media and All Exposure Routes | 1.7E-02 |

| | |
|---|---|
| Total Hazard Index Across All Media and All Exposure Routes | 9.5E-01 |
| Total Skin HI = | 0.0E+00 |
| Total Vascular HI = | 0.0E+00 |
| Total Liver HI = | 2.9E-01 |
| Total Blood HI = | 1.3E-01 |
| Total Kidney HI = | 2.9E-01 |
| Total Eyes HI = | 3.9E-01 |
| Total CNS HI = | 5.2E-01 |

TABLE 10.10.CT.UA
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Tap Water | Arsenic | 1.2E-05 | N/A | N/A | 1.2E-05 | | | | | | |
| | | | Benzo(a)pyrene | 1.0E-04 | N/A | N/A | 1.0E-04 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | 1,2-Dibromo-3-chloropropane | 3.7E-06 | N/A | N/A | 3.7E-06 | | | | | | |
| | | | 1,2-Dibromoethane | 2.3E-06 | N/A | N/A | 2.3E-06 | | | | | | |
| | | | Vinyl chloride | 3.7E-06 | N/A | N/A | 3.7E-06 | | | | | | |
| | | | 3,3'-Dichlorobenzidine | 6.1E-06 | N/A | N/A | 6.1E-06 | | | | | | |
| | | | 3-Nitroaniline | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | 4-Nitroaniline | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | Benzo(a)anthracene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Benzo(k)fluoranthene | 1.0E-06 | N/A | N/A | 1.0E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | 1.0E-04 | N/A | N/A | 1.0E-04 | | | | | | |
| | | | Hexachlorobenzene | 2.2E-05 | N/A | N/A | 2.2E-05 | | | | | | |
| | | | Hexachlorobutadiene | 1.1E-06 | N/A | N/A | 1.1E-06 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.0E-05 | N/A | N/A | 1.0E-05 | | | | | | |
| | | | Pentachlorophenol | 1.6E-06 | N/A | N/A | 1.6E-06 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.5E-05 | N/A | N/A | 1.5E-05 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 9.5E-05 | N/A | N/A | 9.5E-05 | | | | | | |
| | | | (Total) | 3.9E-04 | N/A | 0.0E+00 | 3.9E-04 | (Total) | | N/A | N/A | N/A | N/A |
| Sediment | Sediment | Reeds Gut and Unnamed Tributaries | Benzo(a)pyrene | 1.5E-07 | N/A | 5.1E-11 | 1.5E-07 | | | | | | |
| | | | Benzo(b)fluoranthene | 1.5E-08 | N/A | 0.0E+00 | 1.5E-08 | | | | | | |
| | | | Benzo(a)anthracene | 4.0E-10 | N/A | 3.7E-07 | 3.7E-07 | | | | | | |
| | | | Dibenz(a,h)anthracene | 0.0E+00 | N/A | 1.7E-08 | 1.7E-08 | | | | | | |
| | | | Hexachlorobenzene | 1.5E-08 | N/A | 1.7E-08 | 3.1E-08 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | 1.5E-07 | N/A | 0.0E+00 | 1.5E-07 | | | | | | |
| | | | bis(2-Chloroethyl)ether | 1.5E-08 | N/A | 7.8E-06 | 7.9E-06 | | | | | | |
| | | | n-Nitroso-di-n-propylamine | 2.4E-09 | N/A | 3.7E-05 | 3.7E-05 | | | | | | |
| | | | (Total) | 3.4E-07 | N/A | 4.6E-05 | 4.6E-05 | (Total) | | N/A | N/A | N/A | N/A |

| | |
|---|---|
| Total Risk Across Groundwater | 3.9E-04 |
| Total Risk Across Sediment | 4.6E-05 |
| Total Risk Across All Media and All Exposure Routes | 4.4E-04 |

TABLE 10.11.CT.UA
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
MCAS Cherry Point, OU5 Site 2

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical | Carcinogenic Risk | | | | Chemical | Non-Carcinogenic Hazard Quotient | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total | | Primary Target Organ | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| Groundwater | Groundwater | Excavation Pit | | | | | | | | | | | |
| | | | Benzo(a)pyrene | N/A | N/A | 2.2E-05 | 2.2E-05 | | | | | | |
| | | | Benzo(b)fluoranthene | N/A | N/A | 2.3E-06 | 2.3E-06 | | | | | | |
| | | | Benzo(a)anthracene | N/A | N/A | 1.1E-06 | 1.1E-06 | | | | | | |
| | | | Dibenz(a,h)anthracene | N/A | N/A | 4.4E-05 | 4.4E-05 | | | | | | |
| | | | Hexachlorobenzene | N/A | N/A | 9.5E-07 | 9.5E-07 | | | | | | |
| | | | Indeno(1,2,3-cd)pyrene | N/A | N/A | 2.8E-06 | 2.8E-06 | | | | | | |
| | | | (Total) | N/A | N/A | 7.3E-05 | 7.3E-05 | (Total) | (Total) | N/A | N/A | N/A | N/A |
| | | | | | | Total Risk Across Groundwater | 7.3E-05 | | | | | Total Hazard Index Across All Media and All Exposure Routes | |
| | | | | | | Total Risk Across All Media and All Exposure Routes | 7.3E-05 | | | | | | |

# Appendix J
# Constituent Results

Appendix J

# Evaluation of Detected Inorganic Constituents At Concentrations Exceeding Two Times the Average MCAS Cherry Point Background Concentrations (2xAB)

## Surface Soil

| Site 1 | | |
|---|---|---|
| **Constituent** | **No. of Samples Exceeding 2xAB** | **No. of Samples Above Max. Background Concentration** |
| Arsenic | 1 of 8 | 0 of 8 |
| Barium | 1 of 8 | 0 of 8 |
| Chromium | 2 of 8 | 0 of 8 |
| Lead | 3 of 8 | 1 of 8 |
| Selenium | 1 of 8 | 0 of 8 |

| Site 2 | | |
|---|---|---|
| **Constituent** | **No. of Samples Exceeding 2xAB** | **No. of Samples Above Max. Background Concentration** |
| Arsenic | 1 of 8 | 0 of 8 |
| Barium | 1 of 8 | 1 of 8 |
| Lead | 4 of 8 | 3 of 8 |
| Mercury | 2 of 8 | 0 of 8 |

| Evaluation | | | | |
|---|---|---|---|---|
| **Constituent Detected Above Max. Background Conc.** | **Max. Detected Conc. (mg/kg)** | **2xAB Conc./Max. Background Conc. (mg/kg)** | **EPA Region 9 PRG - Residential (mg/kg)** | **NC SSL (mg/kg)** |
| Barium | **106** | 23/30.9 | 5,400 | 848 |
| Lead | **34.6** | 10.52/14.9 | 400 | 270 |

**Conclusion:** No surface soil inorganic constituents found above background concentrations exceed risk-based or protection of groundwater criteria.

## Subsurface Soil

| Site 1 | | |
|---|---|---|
| **Constituent** | **No. of Samples Exceeding 2xAB** | **No. of Samples Above Max. Background Concentration** |
| Arsenic | 2 of 8 | 0 of 8 |
| Barium | 3 of 8 | 2 of 8 |
| Chromium | 5 of 8 (all K-qualified as biased high) | 0 of 8 |
| Lead | 1 of 8 | 0 of 8 |

| Site 2 | | |
|---|---|---|
| **Constituent** | **No. of Samples Exceeding 2xAB** | **No. of Samples Above Max. Background Concentration** |
| Barium | 1 of 8 | 1 of 8 |

| Evaluation | | | | |
|---|---|---|---|---|
| **Constituent Detected Above Max. Background Conc.** | **Max. Detected Conc. (mg/kg)** | **2xAB Conc./Max. Background Conc. (mg/kg)** | **EPA Region 9 PRG – Residential (mg/kg)** | **NC SSL (mg/kg)** |
| Barium | **34.3** | 23/30.9 | 5,400 | 848 |

**Conclusion:** No subsurface soil inorganic constituents found above background concentrations exceed risk-based or protection of groundwater criteria.

## Groundwater

| Site 1 | | |
|---|---|---|
| **Constituent** | **No. of Samples Exceeding 2xAB** | **No. of Samples Above Max. Background Concentration** |
| Arsenic | 1 of 14 | 0 of 14 |
| Barium | 1 of 14 | 0 of 14 |
| Lead | 5 of 14 | 0 of 14 |

| Site 2 | | |
|---|---|---|
| **Constituent** | **No. of Samples Exceeding 2xAB** | **No. of Samples Above Max. Background Concentration** |
| Barium | 1 of 15 | 0 of 15 |
| Chromium | 1 of 15 | 1 of 15 |
| Lead | 5 of 15 | 1 of 15 |

| Evaluation | | | | | |
|---|---|---|---|---|---|
| **Constituent Detected Above Max. Background Conc.** | **Max. Detected Conc. (µg/l)** | **2xAB Conc./Max. Background Conc. (µg/l)** | **EPA Region 9 PRG – Tapwater (µg/l)** | **EPA MCL (µg/l)** | **NC 2L (µg/l)** |
| Chromium | **29.3** | 8.38/9.7 | 55,000 | 100 | 50 |
| Lead | **6.5** | 1.72/5 | -- | 15 | 15 |

**Conclusion:** No groundwater inorganic constituents found above background concentrations exceed risk-based or statutory criteria.