Section : 12.05
Site 20903-5640 (White Oak)
Doc. #: 0007 (VOL XI)

N60921.AR.000325
NSWC WHITE OAK
5090.3a

# RCRA Facility Investigation

for

# Sites 2, 3, 4, 7, 8, 9 and Paint Branch

## Naval Surface Warfare Center White Oak

Silver Spring, Maryland

# VOLUME V – APPENDICES I-Q

Engineering Field Activity Chesapeake
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298

Contract Task Order 0298

October 2000

TETRA TECH NUS, INC.

# APPENDIX I

# ANALYTICAL DATA

# SITE 2

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1000100 | 2SS1010100 | 2SS1020100 | 2SS1030100 | 2SS1040100 | 2SS1050100 | 2SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 10700 | 7170 | 4430 | 6060 | 15200 | 8280 | 8770 |
| ANTIMONY | 0.62 UL | 0.67 UL | 0.63 UL | 0.65 UL | 1.1 B | 0.64 UL | 0.95 B |
| ARSENIC | 3.1 K | 2.6 K | 2.1 K | 2.8 K | 2.5 K | 2.7 K | 3.5 K |
| BARIUM | 36.3 | 72.1 | 44.6 | 46.9 | 231 | 66.9 | 97.0 |
| BERYLLIUM | 0.06 B | 0.13 B | 0.10 B | 0.11 B | 0.01 U | 0.28 B | 0.54 B |
| CADMIUM | 0.04 U | 0.05 U | 0.04 U | 0.05 U | 0.04 U | 0.05 U | 0.15 B |
| CALCIUM | 5810 J | 1220 J | 670 J | 850 J | 1630 J | 455 J | 1330 J |
| CHROMIUM | 118 J | 18.8 J | 7.4 J | 14.8 J | 30.7 J | 13.3 J | 13.5 J |
| COBALT | 16.5 | 6.3 | 4.3 | 2.3 | 22.8 | 7.3 | 9.9 |
| COPPER | 42.1 | 12.1 | 6.4 | 15.9 | 32.9 | 12.3 | 18.9 |
| CYANIDE | 0.15 U | 0.16 UR | 0.29 B | 0.16 UR | 0.15 UL | 0.16 UL | 0.18 UL |
| IRON | 16600 J | 11100 J | 5670 J | 8510 J | 29600 J | 12300 J | 13300 J |
| LEAD | 16.1 | 42.3 | 45.1 | 67.3 | 36.4 | 23.9 | 41.8 |
| MAGNESIUM | 16500 | 1040 | 369 | 493 | 4410 | 1070 | 1270 |
| MANGANESE | 218 J | 432 J | 258 J | 181 J | 777 J | 430 J | 666 J |
| MERCURY | 0.16 | 0.12 | 0.08 | 0.11 | 0.06 U | 0.09 | 0.31 |
| NICKEL | 243 | 13.3 | 6.2 | 6.9 | 32.6 | 11.9 | 12.1 |
| POTASSIUM | 383 | 668 | 307 | 496 | 5550 | 956 | 961 |
| SELENIUM | 2.7 L | 0.67 UL | 0.63 UL | 5.9 L | 0.63 UL | 0.65 L | 0.75 UL |
| SILVER | 0.58 | 0.17 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.91 |
| SODIUM | 207 B | 40.9 B | 38.6 B | 58.6 B | 248 B | 47.5 B | 116 B |
| THALLIUM | 1.2 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.3 U | 1.5 U |
| VANADIUM | 23.0 | 40.1 | 25.6 | 36.6 | 40.3 | 29.8 | 33.8 |
| ZINC | 33.5 J | 50.0 J | 32.3 J | 26.8 J | 98.0 J | 40.4 J | 74.2 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 1,2-DICHLOROBENZENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 1,3-DICHLOROBENZENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 1,4-DICHLOROBENZENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2,4,5-TRICHLOROPHENOL | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| 2,4,6-TRICHLOROPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2,4-DICHLOROPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2,4-DIMETHYLPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2,4-DINITROPHENOL | 880 U | 950 U | 900 UJ | 930 UJ | 900 UJ | 920 UJ | 1100 U |
| 2,4-DINITROTOLUENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2,6-DINITROTOLUENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1000100 | 2SS1010100 | 2SS1020100 | 2SS1030100 | 2SS1040100 | 2SS1050100 | 2SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2-CHLOROPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2-METHYLNAPHTHALENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2-METHYLPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 2-NITROANILINE | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| 2-NITROPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 3,3'-DICHLOROBENZIDINE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 3-NITROANILINE | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| 4,6-DINITRO-2-METHYLPHENOL | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| 4-BROMOPHENYL PHENYL ETHER | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 4-CHLORO-3-METHYLPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 4-CHLOROANILINE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 4-CHLOROPHENYL PHENYL ETHER | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 4-METHYLPHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| 4-NITROANILINE | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| 4-NITROPHENOL | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| ACENAPHTHENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| ACENAPHTHYLENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| ANTHRACENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| BENZO(A)ANTHRACENE | 55 J | 110 J | 370 U | 48 J | 70 J | 380 U | 47 J |
| BENZO(A)PYRENE | 62 J | 72 J | 370 U | 380 U | 66 J | 380 U | 440 U |
| BENZO(B)FLUORANTHENE | 100 J | 110 J | 42 J | 61 J | 80 J | 380 U | 440 U |
| BENZO(G,H,I)PERYLENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| BENZO(K)FLUORANTHENE | 360 U | 40 J | 370 U | 380 U | 370 U | 380 U | 440 U |
| BIS(2-CHLOROETHOXY)METHANE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| BIS(2-CHLOROETHYL)ETHER | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| BUTYLBENZYL PHTHALATE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| CARBAZOLE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| CHRYSENE | 66 J | 100 J | 49 J | 72 J | 81 J | 380 U | 440 U |
| DI-N-BUTYL PHTHALATE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| DI-N-OCTYL PHTHALATE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| DIBENZO(A,H)ANTHRACENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| DIBENZOFURAN | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| DIETHYL PHTHALATE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| DIMETHYL PHTHALATE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| FLUORANTHENE | 62 J | 260 J | 100 J | 230 J | 200 J | 40 J | 110 J |
| FL[illegible]NE | 360 U | 3[illegible] | 370 U | 380 U | 370 U | 380 U | [illegible]J |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1000100 | 2SS1010100 | 2SS1020100 | 2SS1030100 | 2SS1040100 | 2SS1050100 | 2SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| HEXACHLOROBUTADIENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| HEXACHLOROCYCLOPENTADIENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| HEXACHLOROETHANE | 260 J | 90 J | 370 U | 84 J | 110 J | 100 J | 140 J |
| INDENO(1,2,3-CD)PYRENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| ISOPHORONE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| N-NITROSO-DI-N-PROPYLAMINE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| N-NITROSODIPHENYLAMINE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| NAPHTHALENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| NITROBENZENE | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| PENTACHLOROPHENOL | 880 U | 950 U | 900 U | 930 U | 900 U | 920 U | 1100 U |
| PHENANTHRENE | 360 U | 110 J | 41 J | 160 J | 120 J | 380 U | 52 J |
| PHENOL | 360 U | 390 U | 370 U | 380 U | 370 U | 380 U | 440 U |
| PYRENE | 49 J | 160 J | 68 J | 130 J | 130 J | 380 U | 64 J |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,1-DICHLOROETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,1-DICHLOROETHENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,2-DICHLOROETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 1,2-DICHLOROPROPANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 2-BUTANONE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 2-HEXANONE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| 4-METHYL-2-PENTANONE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| ACETONE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| BENZENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| BROMODICHLOROMETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| BROMOFORM | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| BROMOMETHANE | 1 B | 1 B | 4 B | 12 U | 1 B | 11 U | 13 U |
| CARBON DISULFIDE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| CARBON TETRACHLORIDE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| CHLOROBENZENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| CHLORODIBROMOMETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| CHLOROETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| CHLOROFORM | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| CHLOROMETHANE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1000100 | 2SS1010100 | 2SS1020100 | 2SS1030100 | 2SS1040100 | 2SS1050100 | 2SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| ETHYLBENZENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| METHYLENE CHLORIDE | 11 U | 12 U | 56 U | 2 B | 11 U | 2 B | 2 B |
| STYRENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| TETRACHLOROETHENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| TOLUENE | 11 U | 12 U | 6 J | 12 U | 11 U | 11 U | 13 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| TRICHLOROETHENE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| VINYL CHLORIDE | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| XYLENES, TOTAL | 11 U | 12 U | 56 U | 12 U | 11 U | 11 U | 13 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | 3.6 UL | 2.7 R | 18 UJ | 3.8 U | 3.2 R | 2.2 R | 4.4 U |
| 4,4'-DDE | 3.6 UL | 7.2 L | 18 UJ | 3.8 U | 2.3 R | 2.6 R | 3.5 J |
| 4,4'-DDT | 3.6 UL | 3.9 UJ | 18 UJ | 3.8 U | 5.8 R | 3.8 U | 4.6 R |
| ALDRIN | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| ALPHA-BHC | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| ALPHA-CHLORDANE | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 8.3 J | 2.0 U | 2.3 U |
| AROCLOR-1016 | 36 UL | 39 UJ | 180 UJ | 38 U | 37 U | 38 U | 44 U |
| AROCLOR-1221 | 74 UL | 80 UJ | 380 UJ | 78 U | 75 U | 77 U | 89 U |
| AROCLOR-1232 | 36 UL | 39 UJ | 180 UJ | 38 U | 37 U | 38 U | 44 U |
| AROCLOR-1242 | 36 UL | 39 UJ | 180 UJ | 38 U | 37 U | 38 U | 44 U |
| AROCLOR-1248 | 36 UL | 39 UJ | 180 UJ | 38 U | 37 U | 38 U | 44 U |
| AROCLOR-1254 | 36 UL | 39 UJ | 180 UJ | 38 U | 37 U | 38 U | 44 U |
| AROCLOR-1260 | 20 J | 93 J | 1600 J | 38 U | 160 | 65 | 68 J |
| BETA-BHC | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| DELTA-BHC | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| DIELDRIN | 3.6 UL | 3.9 UJ | 18 UJ | 3.8 U | 3.7 U | 3.8 U | 4.4 U |
| ENDOSULFAN I | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| ENDOSULFAN II | 3.6 UL | 3.9 UJ | 57 R | 3.8 U | 5.9 J | 2.0 R | 2.3 R |
| ENDOSULFAN SULFATE | 3.6 UL | 3.9 UJ | 18 UJ | 3.8 U | 3.7 U | 3.8 U | 4.4 U |
| ENDRIN | 3.6 UL | 3.9 UJ | 18 UJ | 3.8 U | 4.4 R | 3.8 U | 4.4 U |
| ENDRIN ALDEHYDE | 3.6 UL | 3.7 L | 58 J | 3.8 U | 7.1 R | 3.8 U | 4.4 U |
| ENDRIN KETONE | 3.6 UL | 3.9 UJ | 18 UJ | 3.8 U | 3.7 U | 3.8 U | 4.4 U |
| GAMMA-BHC (LINDANE) | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| GAMMA-CHLORDANE | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| HEPTACHLOR | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| HEPTACHLOR EPOXIDE | 1.9 UL | 2.0 UJ | 9.5 UJ | 2.0 U | 1.9 U | 2.0 U | 2.3 U |
| ME[illegible]YCHLOR | 19 UL | 1[illegible] | 95 UJ | 20 U | 19 U | 20 U | [illegible] |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1000100 | 2SS1010100 | 2SS1020100 | 2SS1030100 | 2SS1040100 | 2SS1050100 | 2SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 190 UL | 200 UJ | 950 UJ | 200 U | 190 U | 200 U | 230 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.053 J | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | 50 U | 50 U | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | 22 UL | 23 UL | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | 10 U | 14 | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | 5.6 UL | 5.7 UL | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | 1.1 UJ | 1.1 UJ | N/A |
| PH | N/A | N/A | N/A | N/A | 6.4 | 5.4 | N/A |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | 5300 | 11000 | N/A |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1070100 | 2SS1080100 | 2SS1090100 | 2SS1100100 | 2SS1110100 | 2SS1120100 | 2SS1130100 | 2SS1140100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB107 | 2SB108 | 2SB109 | 2SS110 | 2SS111 | 2SS112 | 2SS113 | 2SS114 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 11100 | 9000 | 7110 | 2130 J | 18100 J | 9070 J | 12700 J | 4240 J |
| ANTIMONY | 1.1 B | 0.85 B | 0.65 UL | 0.62 UL | 0.65 UL | 0.62 UL | 0.71 UL | 0.66 UL |
| ARSENIC | 3.7 K | 4.2 K | 3.2 K | 2.0 K | 2.5 K | 3.1 K | 3.2 K | 1.3 K |
| BARIUM | 79.7 | 66.2 | 37.7 | 15.5 J | 106 J | 30.4 J | 65.4 J | 18.4 J |
| BERYLLIUM | 0.20 B | 0.28 B | 0.01 U | 0.02 B | 0.01 U | 0.06 B | 0.06 B | 0.24 B |
| CADMIUM | 1.0 | 0.13 B | 0.05 U | 0.04 UL | 0.05 UL | 0.04 U | 0.05 UL | 0.05 U |
| CALCIUM | 1910 J | 1360 J | 350 J | 38100 J | 4950 J | 300 J | 52800 J | 1270 J |
| CHROMIUM | 38.5 J | 43.4 J | 18.9 J | 12.9 J | 69.2 J | 71.5 J | 29.3 J | 8.8 J |
| COBALT | 10.7 | 7.1 | 4.8 | 2.8 K | 13.9 | 2.9 | 11.7 K | 4.1 B |
| COPPER | 186 | 17.1 | 7.4 | 12.9 J | 36.1 J | 25.2 J | 30.1 J | 15.8 J |
| CYANIDE | 0.48 B | 0.16 UL | 0.16 UL | 0.15 UL | 0.16 UR | 0.15 UR | 0.21 B | 0.16 U |
| IRON | 21300 J | 21600 J | 13900 J | 6030 | 25500 | 18700 | 20500 | 11400 |
| LEAD | 74.7 | 47.7 | 214 | 18.7 | 39.7 | 86.8 | 54.0 | 7.8 |
| MAGNESIUM | 2840 | 1100 | 655 | 2650 J | 11400 J | 937 J | 3940 J | 650 J |
| MANGANESE | 378 J | 355 J | 133 J | 91.7 | 373 | 50.4 | 369 | 112 |
| MERCURY | 0.58 | 0.20 | 0.06 | 0.09 | 0.10 | 0.06 | 0.08 | 0.06 U |
| NICKEL | 37.0 | 19.3 | 5.9 | 28.6 J | 61.6 J | 8.3 J | 26.7 J | 5.3 J |
| POTASSIUM | 1600 | 596 | 457 | 223 | 3620 | 690 | 1940 | 486 |
| SELENIUM | 0.71 UL | 0.67 UL | 0.65 UL | 0.62 UJ | 0.70 B | 0.70 B | 1.1 B | 0.66 UJ |
| SILVER | 3.4 | 0.17 U | 0.16 U | 0.15 U | 0.16 U | 0.16 U | 0.18 U | 0.17 U |
| SODIUM | 96.2 B | 57.3 B | 50.9 B | 122 | 178 | 144 | 195 | 21.9 |
| THALLIUM | 1.4 U | 1.3 U | 1.3 U | 1.2 U | 1.3 U | 1.2 U | 1.4 U | 1.3 U |
| VANADIUM | 35.5 | 39.3 | 24.8 | 8.7 | 55.9 | 32.5 | 28.9 | 19.6 |
| ZINC | 275 J | 65.9 J | 42.1 J | 87.0 | 56.6 | 74.5 | 85.8 | 84.0 |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 1,2-DICHLOROBENZENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 1,3-DICHLOROBENZENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 1,4-DICHLOROBENZENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2,4,5-TRICHLOROPHENOL | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| 2,4,6-TRICHLOROPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2,4-DICHLOROPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2,4-DIMETHYLPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2,4-DINITROPHENOL | 1000 UJ | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| 2,4-DINITROTOLUENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2,6-DI[illegible]TOLUENE | 420 U | 390 U | [illegible]80 U | 1400 U | 380 U | 370 U | 420 U | [illegible]0 U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1070100 | 2SS1080100 | 2SS1090100 | 2SS1100100 | 2SS1110100 | 2SS1120100 | 2SS1130100 | 2SS1140100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB107 | 2SB108 | 2SB109 | 2SS110 | 2SS111 | 2SS112 | 2SS113 | 2SS114 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2-CHLOROPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2-METHYLNAPHTHALENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2-METHYLPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 2-NITROANILINE | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| 2-NITROPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 3,3'-DICHLOROBENZIDINE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 3-NITROANILINE | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| 4,6-DINITRO-2-METHYLPHENOL | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| 4-BROMOPHENYL PHENYL ETHER | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 4-CHLORO-3-METHYLPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 4-CHLOROANILINE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 4-CHLOROPHENYL PHENYL ETHER | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 4-METHYLPHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| 4-NITROANILINE | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| 4-NITROPHENOL | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| ACENAPHTHENE | 94 J | 390 U | 380 U | 830 J | 380 U | 370 U | 420 U | 390 U |
| ACENAPHTHYLENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| ANTHRACENE | 100 J | 390 U | 380 U | 1600 | 380 U | 370 U | 420 U | 390 U |
| BENZO(A)ANTHRACENE | 510 | 68 J | 110 J | 3100 | 150 J | 370 U | 180 J | 390 U |
| BENZO(A)PYRENE | 400 J | 56 J | 100 J | 2300 | 140 J | 370 U | 160 J | 390 U |
| BENZO(B)FLUORANTHENE | 690 | 120 J | 190 J | 3100 | 200 J | 370 U | 280 J | 390 U |
| BENZO(G,H,I)PERYLENE | 100 J | 390 U | 380 U | 590 J | 59 J | 370 U | 48 J | 390 U |
| BENZO(K)FLUORANTHENE | 240 J | 390 U | 380 U | 1500 | 85 J | 370 U | 85 J | 390 U |
| BIS(2-CHLOROETHOXY)METHANE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| BIS(2-CHLOROETHYL)ETHER | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 86 J | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| BUTYLBENZYL PHTHALATE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| CARBAZOLE | 87 J | 390 U | 380 U | 300 J | 380 U | 370 U | 420 U | 390 U |
| CHRYSENE | 510 | 80 J | 160 J | 2900 | 180 J | 370 U | 210 J | 390 U |
| DI-N-BUTYL PHTHALATE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| DI-N-OCTYL PHTHALATE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| DIBENZO(A,H)ANTHRACENE | 420 U | 390 U | 380 U | 350 J | 380 U | 370 U | 420 U | 390 U |
| DIBENZOFURAN | 420 U | 390 U | 380 U | 940 J | 380 U | 370 U | 420 U | 390 U |
| DIETHYL PHTHALATE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| DIMETHYL PHTHALATE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| FLUORANTHENE | 1200 | 130 J | 370 J | 7600 | 340 J | 370 U | 460 | 57 J |
| FLUORENE | 72 J | 390 U | 380 U | 1100 J | 380 U | 370 U | 420 U | 390 U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1070100 | 2SS1080100 | 2SS1090100 | 2SS1100100 | 2SS1110100 | 2SS1120100 | 2SS1130100 | 2SS1140100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB107 | 2SB108 | 2SB109 | 2SS110 | 2SS111 | 2SS112 | 2SS113 | 2SS114 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| HEXACHLOROBUTADIENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| HEXACHLOROCYCLOPENTADIENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| HEXACHLOROETHANE | 160 J | 98 J | 110 J | 1400 U | 380 U | 370 U | 420 U | 390 U |
| INDENO(1,2,3-CD)PYRENE | 230 J | 390 U | 380 U | 1100 J | 85 J | 370 U | 92 J | 390 U |
| ISOPHORONE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| N-NITROSO-DI-N-PROPYLAMINE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| N-NITROSODIPHENYLAMINE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| NAPHTHALENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| NITROBENZENE | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| PENTACHLOROPHENOL | 1000 U | 950 U | 930 U | 3500 U | 920 U | 890 U | 1000 U | 950 U |
| PHENANTHRENE | 720 | 65 J | 220 J | 8300 | 180 J | 370 U | 230 J | 390 U |
| PHENOL | 420 U | 390 U | 380 U | 1400 U | 380 U | 370 U | 420 U | 390 U |
| PYRENE | 690 | 100 J | 190 J | 5700 | 240 J | 370 U | 330 J | 390 U |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,1-DICHLOROETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,1-DICHLOROETHENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,2-DICHLOROETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 1,2-DICHLOROPROPANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 2-BUTANONE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 2-HEXANONE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| 4-METHYL-2-PENTANONE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| ACETONE | 13 U | 12 U | 9 J | 11 U | 11 U | 11 U | 13 U | 12 U |
| BENZENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| BROMODICHLOROMETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| BROMOFORM | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| BROMOMETHANE | 13 U | 12 U | 12 U | 0.6 B | 11 U | 11 U | 13 U | 12 U |
| CARBON DISULFIDE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| CARBON TETRACHLORIDE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| CHLOROBENZENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| CHLORODIBROMOMETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| CHLOROETHANE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| CHLOROFORM | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| CHLO[illegible]THANE | 13 U | 12 U | [illegible]2 U | 11 U | 11 U | 11 U | 13 U | [illegible] U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1070100 | 2SS1080100 | 2SS1090100 | 2SS1100100 | 2SS1110100 | 2SS1120100 | 2SS1130100 | 2SS1140100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB107 | 2SB108 | 2SB109 | 2SS110 | 2SS111 | 2SS112 | 2SS113 | 2SS114 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| ETHYLBENZENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| METHYLENE CHLORIDE | 3 B | 2 B | 2 B | 11 U | 11 U | 11 U | 13 U | 12 U |
| STYRENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| TETRACHLOROETHENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| TOLUENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| TRICHLOROETHENE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| VINYL CHLORIDE | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| XYLENES, TOTAL | 13 U | 12 U | 12 U | 11 U | 11 U | 11 U | 13 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 4.3 R | 3.9 U | 3.9 UL | 3.6 UL | 3.8 UL | 3.7 UL | 4.2 U | 3.9 U |
| 4,4'-DDE | 7.3 J | 3.9 U | 3.9 UL | 3.6 UL | 3.8 J | 3.7 UL | 2.4 R | 3.9 U |
| 4,4'-DDT | 4.5 J | 3.9 U | 3.9 UL | 4.5 R | 6.7 J | 3.7 UL | 6.9 R | 3.9 U |
| ALDRIN | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| ALPHA-BHC | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| ALPHA-CHLORDANE | 4.3 U | 1.7 J | 2.0 UL | 4.0 J | 1.1 R | 1.9 UL | 3.3 J | 2.0 U |
| AROCLOR-1016 | 84 U | 39 U | 39 UL | 36 UL | 38 UL | 37 UL | 42 U | 39 U |
| AROCLOR-1221 | 170 U | 80 U | 78 UL | 74 UL | 77 UL | 75 UL | 84 U | 79 U |
| AROCLOR-1232 | 84 U | 39 U | 39 UL | 36 UL | 38 UL | 37 UL | 42 U | 39 U |
| AROCLOR-1242 | 84 U | 39 U | 39 UL | 36 UL | 38 UL | 37 UL | 42 U | 39 U |
| AROCLOR-1248 | 84 U | 39 U | 39 UL | 36 UL | 38 UL | 37 UL | 42 U | 39 U |
| AROCLOR-1254 | 84 U | 39 U | 39 UL | 36 UL | 38 UL | 37 UL | 42 U | 140 |
| AROCLOR-1260 | 610 J | 53 | 39 UL | 800 L | 76 L | 37 UL | 430 | 140 |
| BETA-BHC | 4.3 U | 2.0 U | 2.0 UL | 1.8 J | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| DELTA-BHC | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| DIELDRIN | 8.4 J | 3.9 U | 3.9 UL | 10 J | 3.8 UL | 3.7 UL | 4.2 U | 3.9 U |
| ENDOSULFAN I | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| ENDOSULFAN II | 19 R | 3.9 U | 3.9 UL | 27 J | 3.8 UL | 3.7 UL | 14 J | 4.6 |
| ENDOSULFAN SULFATE | 8.4 U | 3.9 U | 3.9 UL | 2.0 R | 3.8 UL | 3.7 UL | 2.3 R | 3.9 U |
| ENDRIN | 16 R | 3.9 U | 3.9 UL | 18 R | 2.5 R | 3.7 UL | 17 J | 3.9 U |
| ENDRIN ALDEHYDE | 23 J | 3.9 U | 3.9 UL | 36 J | 2.4 R | 3.7 UL | 17 R | 3.8 J |
| ENDRIN KETONE | 14 R | 3.9 U | 3.9 UL | 2.0 R | 3.8 UL | 3.7 UL | 4.2 U | 3.9 U |
| GAMMA-BHC (LINDANE) | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| GAMMA-CHLORDANE | 4.300000 R | 2.0 U | 2.0 UL | 4.2 R | 1.1 J | 1.9 UL | 2.2 R | 2.0 U |
| HEPTACHLOR | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| HEPTACHLOR EPOXIDE | 4.3 U | 2.0 U | 2.0 UL | 1.9 UL | 2.0 UL | 1.9 UL | 2.1 U | 2.0 U |
| METHOXYCHLOR | 43 U | 20 U | 20 UL | 18 R | 20 UL | 19 UL | 17 R | 20 U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1070100 | 2SS1080100 | 2SS1090100 | 2SS1100100 | 2SS1110100 | 2SS1120100 | 2SS1130100 | 2SS1140100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB107 | 2SB108 | 2SB109 | 2SS110 | 2SS111 | 2SS112 | 2SS113 | 2SS114 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 430 U | 200 U | 200 UL | 190 UL | 200 UL | 190 UL | 210 U | 200 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.20 J | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | 50 U | N/A | N/A | 110 |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | 45 L | N/A | N/A | 48 L |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | 42 | N/A | N/A | 17 |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | 4.8 UL | N/A | N/A | 12.5 UL |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | 0.24 J | N/A | N/A | 0.25 |
| PH | N/A | N/A | N/A | N/A | 7.6 | N/A | N/A | 5.2 |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | 7300 | N/A | N/A | 5300 |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1150100 | 2SS1160100 | 2SS1170100 | 2SS1170100-D | 2SS1180100 | 2SS1190100 | 2SS1200100 | 2SS1210100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS115 | 2SS116 | 2SB/SS117 | 2SB/SS117 | 2SS118 | 2SS119 | 2SS120 | 2SS121 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/24/98 | 11/24/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | 2SS1170100-D | 2SS1170100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 15900 J | 7200 J | 13100 J | 8770 J | 3680 J | 5600 J | N/A | N/A |
| ANTIMONY | 0.62 UL | 0.65 UL | 0.65 UL | 0,67 UL | 0.61 UL | 0.62 UL | N/A | N/A |
| ARSENIC | 4.0 K | 2.2 K | 3.7 K | 2.7 K | 2.7 K | 4.3 K | N/A | N/A |
| BARIUM | 57.6 J | 47.9 J | 62.6 J | 46.8 J | 22.4 J | 24.5 J | N/A | N/A |
| BERYLLIUM | 0.18 B | 0.10 B | 0.71 B | 0.05 B | 0.01 U | 0.10 B | N/A | N/A |
| CADMIUM | 0.04 UL | 0.05 U | 0.42 | 0.44 | 0.15 B | 0.04 U | N/A | N/A |
| CALCIUM | 851 J | 969 J | 6740 J | 4460 J | 5460 J | 743 J | N/A | N/A |
| CHROMIUM | 25.0 J | 84.4 J | 45.1 J | 35.5 J | 23.8 J | 33.7 J | N/A | N/A |
| COBALT | 13.8 | 7.4 | 9.5 | 8.2 | 3.3 | 2.5 | N/A | N/A |
| COPPER | 25.0 J | 38.7 J | 35.4 J | 32.4 J | 27.0 J | 6.0 J | N/A | N/A |
| CYANIDE | 0.15 UR | 0.16 UR | 0.16 UL | 0.16 UR | 0.15 UR | 0.15 UR | N/A | N/A |
| IRON | 25300 | 18200 | 20800 | 19100 | 14600 | 13900 | N/A | N/A |
| LEAD | 14.6 | 18.2 | 29.9 | 20.1 | 26.5 | 9.1 | N/A | N/A |
| MAGNESIUM | 4520 J | 1890 J | 5040 J | 3830 J | 1930 J | 870 J | N/A | N/A |
| MANGANESE | 332 | 255 | 206 | 171 | 134 | 103 | N/A | N/A |
| MERCURY | 0.06 U | 0.33 | 0.39 | 1.1 | 0.10 | 0.11 | N/A | N/A |
| NICKEL | 54.8 J | 21.7 J | 65.6 J | 52.6 J | 27.0 J | 10.0 J | N/A | N/A |
| POTASSIUM | 2570 | 1210 | 1270 | 1000 | 259 | 218 | N/A | N/A |
| SELENIUM | 0.62 UJ | 0.65 UJ | 0.80 B | 1.4 B | 0.72 B | 0.62 UJ | N/A | N/A |
| SILVER | 0.16 U | 0.16 U | 0.22 | 0.17 | 0.15 U | 0.16 U | N/A | N/A |
| SODIUM | 206 | 69.6 | 104 | 52.1 | 40.2 | 33.4 | N/A | N/A |
| THALLIUM | 1.2 U | 1.3 U | 1.3 U | 1.3 U | 1.2 U | 1.2 U | N/A | N/A |
| VANADIUM | 25.3 | 20.4 | 29.1 | 27.6 | 19.2 | 25.9 | N/A | N/A |
| ZINC | 58.4 | 60.7 | 70.6 | 67.7 | 73.1 | 19.1 | N/A | N/A |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 1,2-DICHLOROBENZENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 1,3-DICHLOROBENZENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 1,4-DICHLOROBENZENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2,4,5-TRICHLOROPHENOL | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| 2,4,6-TRICHLOROPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2,4-DICHLOROPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2,4-DIMETHYLPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2,4-DINITROPHENOL | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| 2,4-DINITROTOLUENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2,6-DINITROTOLUENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1150100 | 2SS1160100 | 2SS1170100 | 2SS1170100-D | 2SS1180100 | 2SS1190100 | 2SS1200100 | 2SS1210100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS115 | 2SS116 | 2SB/SS117 | 2SB/SS117 | 2SS118 | 2SS119 | 2SS120 | 2SS121 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/24/98 | 11/24/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | 2SS1170100-D | 2SS1170100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2-CHLOROPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2-METHYLNAPHTHALENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2-METHYLPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 2-NITROANILINE | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| 2-NITROPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 3,3'-DICHLOROBENZIDINE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 3-NITROANILINE | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| 4,6-DINITRO-2-METHYLPHENOL | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| 4-BROMOPHENYL PHENYL ETHER | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 4-CHLORO-3-METHYLPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 4-CHLOROANILINE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 4-CHLOROPHENYL PHENYL ETHER | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 4-METHYLPHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| 4-NITROANILINE | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| 4-NITROPHENOL | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| ACENAPHTHENE | 370 U | 380 U | 380 U | 79 J | 1300 J | 370 U | N/A | N/A |
| ACENAPHTHYLENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| ANTHRACENE | 370 U | 380 U | 380 U | 180 J | 2900 J | 370 U | N/A | N/A |
| BENZO(A)ANTHRACENE | 370 U | 120 J | 110 J | 740 | 7200 | 40 J | N/A | N/A |
| BENZO(A)PYRENE | 370 U | 95 J | 110 J | 710 | 5700 | 81 J | N/A | N/A |
| BENZO(B)FLUORANTHENE | 370 U | 150 J | 150 J | 1100 | 9500 | 110 J | N/A | N/A |
| BENZO(G,H,I)PERYLENE | 370 U | 380 U | 40 J | 170 J | 900 J | 370 U | N/A | N/A |
| BENZO(K)FLUORANTHENE | 370 U | 67 J | 68 J | 420 | 4100 | 370 U | N/A | N/A |
| BIS(2-CHLOROETHOXY)METHANE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| BIS(2-CHLOROETHYL)ETHER | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| BIS(2-ETHYLHEXYL)PHTHALATE | 370 U | 380 U | 380 U | 1800 | 3600 U | 370 U | N/A | N/A |
| BUTYLBENZYL PHTHALATE | 370 U | 380 U | 140 J | 450 | 3600 U | 370 U | N/A | N/A |
| CARBAZOLE | 370 U | 380 U | 380 U | 90 J | 1400 J | 370 U | N/A | N/A |
| CHRYSENE | 370 U | 120 J | 140 J | 710 | 7500 | 61 J | N/A | N/A |
| DI-N-BUTYL PHTHALATE | 370 U | 52 J | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| DI-N-OCTYL PHTHALATE | 370 U | 380 U | 380 U | 160 J | 3600 U | 370 U | N/A | N/A |
| DIBENZO(A,H)ANTHRACENE | 370 U | 380 U | 380 U | 100 J | 720 J | 370 U | N/A | N/A |
| DIBENZOFURAN | 370 U | 380 U | 380 U | 390 U | 880 J | 370 U | N/A | N/A |
| DIETHYL PHTHALATE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| DIMETHYL PHTHALATE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| FLUORANTHENE | 370 U | 300 J | 240 J | 1900 | 19000 | 90 J | N/A | N/A |
| FLUOR[illegible] | 370 U | 380 U | [illegible] U | 390 U | 1400 J | 370 U | N/A | N/A |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1150100 | 2SS1160100 | 2SS1170100 | 2SS1170100-D | 2SS1180100 | 2SS1190100 | 2SS1200100 | 2SS1210100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS115 | 2SS116 | 2SB/SS117 | 2SB/SS117 | 2SS118 | 2SS119 | 2SS120 | 2SS121 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/24/98 | 11/24/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | 2SS1170100-D | 2SS1170100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| HEXACHLOROBUTADIENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| HEXACHLOROCYCLOPENTADIENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| HEXACHLOROETHANE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| INDENO(1,2,3-CD)PYRENE | 370 U | 58 J | 58 J | 330 J | 2200 J | 370 U | N/A | N/A |
| ISOPHORONE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| N-NITROSO-DI-N-PROPYLAMINE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| N-NITROSODIPHENYLAMINE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| NAPHTHALENE | 370 U | 380 U | 380 U | 390 U | 870 J | 370 U | N/A | N/A |
| NITROBENZENE | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| PENTACHLOROPHENOL | 890 U | 930 U | 920 U | 950 U | 8700 U | 890 U | N/A | N/A |
| PHENANTHRENE | 370 U | 160 J | 93 J | 1000 | 17000 | 370 U | N/A | N/A |
| PHENOL | 370 U | 380 U | 380 U | 390 U | 3600 U | 370 U | N/A | N/A |
| PYRENE | 370 U | 170 J | 160 J | 1000 | 11000 | 64 J | N/A | N/A |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,1,2-TRICHLOROETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,1-DICHLOROETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,1-DICHLOROETHENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,2-DICHLOROETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 1,2-DICHLOROPROPANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 2-BUTANONE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 2-HEXANONE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| 4-METHYL-2-PENTANONE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| ACETONE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| BENZENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| BROMODICHLOROMETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| BROMOFORM | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| BROMOMETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CARBON DISULFIDE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CARBON TETRACHLORIDE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CHLOROBENZENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CHLORODIBROMOMETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CHLOROETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CHLOROFORM | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| CHLOROMETHANE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1150100 | 2SS1160100 | 2SS1170100 | 2SS1170100-D | 2SS1180100 | 2SS1190100 | 2SS1200100 | 2SS1210100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS115 | 2SS116 | 2SB/SS117 | 2SB/SS117 | 2SS118 | 2SS119 | 2SS120 | 2SS121 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/24/98 | 11/24/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | 2SS1170100-D | 2SS1170100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| ETHYLBENZENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| METHYLENE CHLORIDE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| STYRENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| TETRACHLOROETHENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| TOLUENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| TRICHLOROETHENE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| VINYL CHLORIDE | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| XYLENES, TOTAL | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | N/A | N/A |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 2.6 J | 3.8 U | 3.8 U | 3.8 | 7.8 | 3.7 UL | 33 UJ | 3.5 UJ |
| 4,4'-DDE | 3.7 UL | 5.4 | 2.7 J | 6.9 | 6.2 R | 3.7 UL | 33 UJ | 3.5 UJ |
| 4,4'-DDT | 3.7 UL | 4.4 R | 4.1 R | 7.5 | 20 | 3.3 J | 33 UJ | 3.5 UJ |
| ALDRIN | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| ALPHA-BHC | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| ALPHA-CHLORDANE | 1.9 UL | 2.0 U | 8.0 J | 9.6 | 3.3 R | 1.9 UL | 17 UJ | 1.8 UJ |
| AROCLOR-1016 | 37 UL | 38 U | 38 U | 38 U | 37 U | 37 UL | 330 UJ | 35 UJ |
| AROCLOR-1221 | 75 UL | 78 U | 77 U | 77 U | 75 U | 75 UL | 660 UJ | 71 UJ |
| AROCLOR-1232 | 37 UL | 38 U | 38 U | 38 U | 37 U | 37 UL | 330 UJ | 35 UJ |
| AROCLOR-1242 | 37 UL | 38 U | 38 U | 38 U | 37 U | 37 UL | 330 UJ | 35 UJ |
| AROCLOR-1248 | 37 UL | 38 U | 38 U | 38 U | 37 U | 37 UL | 330 UJ | 35 UJ |
| AROCLOR-1254 | 37 UL | 38 U | 130 | 350 | 37 U | 37 UL | 330 UJ | 35 UJ |
| AROCLOR-1260 | 45 J | 63 | 130 J | 38 U | 120 | 37 UL | 3500 J | 37 J |
| BETA-BHC | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| DELTA-BHC | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| DIELDRIN | 3.7 UL | 3.8 U | 3.8 U | 3.8 U | 2.5 R | 3.7 UL | 33 UJ | 3.5 UJ |
| ENDOSULFAN I | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| ENDOSULFAN II | 3.7 UL | 3.8 U | 4.8 | 8.9 | 3.7 U | 3.7 UL | 120 J | 3.5 UJ |
| ENDOSULFAN SULFATE | 3.7 UL | 3.8 U | 3.8 U | 10 | 4.4 R | 3.7 UL | 33 UJ | 3.5 UJ |
| ENDRIN | 3.7 UL | 3.8 U | 8.7 J | 24 | 13 R | 3.5 J | 39 R | 2.9 J |
| ENDRIN ALDEHYDE | 3.7 UL | 2.1 R | 4.1 R | 6.2 | 1.9 R | 3.7 UL | 150 J | 2.1 R |
| ENDRIN KETONE | 3.7 UL | 3.8 U | 3.8 U | 5.3 | 20 J | 3.7 UL | 33 UJ | 3.5 UJ |
| GAMMA-BHC (LINDANE) | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| GAMMA-CHLORDANE | 1.9 UL | 2.0 U | 7.8 J | 9.1 | 4.8 | 1.9 UL | 17 UJ | 1.8 UJ |
| HEPTACHLOR | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| HEPTACHLOR EPOXIDE | 1.9 UL | 2.0 U | 2.0 U | 2.0 U | 1.9 U | 1.9 UL | 17 UJ | 1.8 UJ |
| METHO[illegible]LOR | 19 UL | 20 U | [illegible] U | 21 | 84 R | 19 UL | 170 UJ | [illegible]8 UJ |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1150100 | 2SS1160100 | 2SS1170100 | 2SS1170100-D | 2SS1180100 | 2SS1190100 | 2SS1200100 | 2SS1210100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS115 | 2SS116 | 2SB/SS117 | 2SB/SS117 | 2SS118 | 2SS119 | 2SS120 | 2SS121 |
| SAMPLE DATE: | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/30/98 | 11/24/98 | 11/24/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | 2SS1170100-D | 2SS1170100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 190 UL | 200 U | 200 U | 200 U | 190 U | 190 UL | 1700 UJ | 180 UJ |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.12 J | 0.25 U | 0.25 U | N/A | N/A |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 UJ | 0.50 U | 0.50 U | N/A | N/A |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 UJ | 0.25 U | 0.25 U | N/A | N/A |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 UJ | 0.50 U | 0.50 U | N/A | N/A |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 UJ | 0.65 U | 0.65 U | N/A | N/A |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | 50 U | 50 U | 280 | N/A | N/A | 170 |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | 23 UL | 23 UL | 22 UL | N/A | N/A | 23 UR |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | 10 U | 100 | 10 U | N/A | N/A | 140 |
| FERROUS IRON mg/kg | N/A | N/A | 11.6 UL | 11.5 UL | 11.1 UL | N/A | N/A | 5.7 UL |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | 0.35 B | 0.46 B | 1.1 U | N/A | N/A | 0.57 |
| PH | N/A | N/A | 7.6 | 7.6 | 7.8 | N/A | N/A | 5.1 |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | 1800 | 4800 | 3900 | N/A | N/A | 17000 |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1220100 | 2SS1230100 | 2SS1240100 | 2SS1250100 | AFI-SO-01 | AFI-SO-01-D | AFI-SO-02 | AFI-SO-03 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS122 | 2SS123 | 2SS124 | 2SS125 | AFI-SO-01 | AFI-SO-01 | AFI-SO-02 | AFI-SO-03 |
| SAMPLE DATE: | 11/24/98 | 11/24/98 | 11/24/98 | 11/24/98 | 06/08/95 | 06/08/95 | 06/08/95 | 06/08/95 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ANTIMONY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ARSENIC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BARIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BERYLLIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CADMIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CALCIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHROMIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| COBALT | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| COPPER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CYANIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| IRON | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| LEAD | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MAGNESIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MANGANESE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MERCURY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NICKEL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| POTASSIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SELENIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SILVER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SODIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| THALLIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| VANADIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ZINC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,3-DICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,4-DICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,5-TRICHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,6-TRICHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DICHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DIMETHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DINITROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1220100 | 2SS1230100 | 2SS1240100 | 2SS1250100 | AFI-SO-01 | AFI-SO-01-D | AFI-SO-02 | AFI-SO-03 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS122 | 2SS123 | 2SS124 | 2SS125 | AFI-SO-01 | AFI-SO-01 | AFI-SO-02 | AFI-SO-03 |
| SAMPLE DATE: | 11/24/98 | 11/24/98 | 11/24/98 | 11/24/98 | 06/08/95 | 06/08/95 | 06/08/95 | 06/08/95 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-CHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-METHYLNAPHTHALENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3,3'-DICHLOROBENZIDINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3-NITROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,6-DINITRO-2-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-BROMOPHENYL PHENYL ETHER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-CHLORO-3-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-CHLOROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-CHLOROPHENYL PHENYL ETHER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACENAPHTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACENAPHTHYLENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ANTHRACENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(A)ANTHRACENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(A)PYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(B)FLUORANTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(G,H,I)PERYLENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(K)FLUORANTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BIS(2-CHLOROETHOXY)METHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BIS(2-CHLOROETHYL)ETHER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BIS(2-ETHYLHEXYL)PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BUTYLBENZYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBAZOLE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHRYSENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DI-N-BUTYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DI-N-OCTYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIBENZO(A,H)ANTHRACENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIBENZOFURAN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIETHYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIMETHYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FLUORANTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FLUORENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1220100 | 2SS1230100 | 2SS1240100 | 2SS1250100 | AFI-SO-01 | AFI-SO-01-D | AFI-SO-02 | AFI-SO-03 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS122 | 2SS123 | 2SS124 | 2SS125 | AFI-SO-01 | AFI-SO-01 | AFI-SO-02 | AFI-SO-03 |
| SAMPLE DATE: | 11/24/98 | 11/24/98 | 11/24/98 | 11/24/98 | 06/08/95 | 06/08/95 | 06/08/95 | 06/08/95 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXACHLOROBUTADIENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXACHLOROCYCLOPENTADIENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXACHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| INDENO(1,2,3-CD)PYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ISOPHORONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N-NITROSO-DI-N-PROPYLAMINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N-NITROSODIPHENYLAMINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NAPHTHALENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PENTACHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PHENANTHRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1,2,2-TETRACHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1,2-TRICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1-DICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1-DICHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-BUTANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-HEXANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-METHYL-2-PENTANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMODICHLOROMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMOFORM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBON DISULFIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBON TETRACHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROFORM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| C[illegible]OMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1220100 | 2SS1230100 | 2SS1240100 | 2SS1250100 | AFI-SO-01 | AFI-SO-01-D | AFI-SO-02 | AFI-SO-03 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS122 | 2SS123 | 2SS124 | 2SS125 | AFI-SO-01 | AFI-SO-01 | AFI-SO-02 | AFI-SO-03 |
| SAMPLE DATE: | 11/24/98 | 11/24/98 | 11/24/98 | 11/24/98 | 06/08/95 | 06/08/95 | 06/08/95 | 06/08/95 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ETHYLBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| METHYLENE CHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| STYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TETRACHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TRANS-1,3-DICHLOROPROPENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TRICHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| VINYL CHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| XYLENES, TOTAL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 4.5 R | 4.1 UJ | 20 R | 2.7 R | 0.37 R | 3.7 U | 0.37 U | 3.9 U |
| 4,4'-DDE | 7.4 UJ | 4.1 UJ | 230 J | 2.8 R | 0.85 J | 0.75 J | 1.6 J | 3.9 U |
| 4,4'-DDT | 3.6 R | 4.1 UJ | 240 J | 4.1 UJ | 3.8 U | 3.7 U | 1.7 J | 3.9 U |
| ALDRIN | 3.8 UJ | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| ALPHA-BHC | 3.8 U | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| ALPHA-CHLORDANE | 3.8 U | 2.1 UJ | 17 UJ | 2.1 UJ | N/A | N/A | N/A | N/A |
| AROCLOR-1016 | 74 UJ | 41 UJ | 340 UJ | 41 UJ | 38 U | 37 U | 37 U | 39 U |
| AROCLOR-1221 | 150 UJ | 84 UJ | 680 UJ | 83 UJ | 76 U | 76 U | 76 U | 80 U |
| AROCLOR-1232 | 74 UJ | 41 UJ | 340 UJ | 41 UJ | 38 U | 37 U | 37 U | 39 U |
| AROCLOR-1242 | 74 UJ | 41 UJ | 340 UJ | 41 UJ | 38 U | 37 U | 37 U | 39 U |
| AROCLOR-1248 | 74 UJ | 41 UJ | 340 UJ | 41 UJ | 38 U | 37 U | 37 U | 39 U |
| AROCLOR-1254 | 74 UJ | 47 J | 340 UJ | 41 UJ | 38 U | 37 U | 37 U | 39 U |
| AROCLOR-1260 | 680 J | 33 J | 340 UJ | 250 J | 38 U | 37 U | 37 U | 39 U |
| BETA-BHC | 3.8 U | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| DELTA-BHC | 3.8 U | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| DIELDRIN | 7.4 U | 4.1 UJ | 34 UJ | 4.1 UJ | 3.8 U | 3.7 U | 0.52 J | 3.9 U |
| ENDOSULFAN I | 3.8 U | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| ENDOSULFAN II | 20 J | 4.1 UJ | 34 UJ | 8.3 J | 3.8 U | 3.7 U | 3.7 U | 3.9 U |
| ENDOSULFAN SULFATE | 7.4 UJ | 4.1 UJ | 34 UJ | 4.1 UJ | 3.8 U | 3.7 U | 3.7 U | 3.9 U |
| ENDRIN | 35 J | 4.1 UJ | 34 UJ | 4.1 UJ | 3.8 U | 3.7 U | 3.7 U | 3.9 U |
| ENDRIN ALDEHYDE | 28 R | 4.1 UJ | 34 UJ | 7.9 J | 3.8 U | 3.7 U | 3.7 U | 3.9 U |
| ENDRIN KETONE | 7.4 UJ | 4.1 UJ | 34 UJ | 4.1 UJ | 3.8 U | 3.7 U | 3.7 U | 3.9 U |
| GAMMA-BHC (LINDANE) | 3.8 UJ | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| GAMMA-CHLORDANE | 3.5 R | 2.1 UJ | 17 UJ | 3.6 J | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| HEPTACHLOR | 3.8 UJ | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 1.9 U | 2.0 U |
| HEPTACHLOR EPOXIDE | 3.8 UJ | 2.1 UJ | 17 UJ | 2.1 UJ | 1.9 U | 1.9 U | 0.71 J | 2.0 U |
| METHOXYCHLOR | 19 R | 21 UJ | 170 UJ | 21 UJ | 19 U | 19 U | 19 U | 2.0 U |

TABLE I-1

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 2SS1220100 | 2SS1230100 | 2SS1240100 | 2SS1250100 | AFI-SO-01 | AFI-SO-01-D | AFI-SO-02 | AFI-SO-03 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SS122 | 2SS123 | 2SS124 | 2SS125 | AFI-SO-01 | AFI-SO-01 | AFI-SO-02 | AFI-SO-03 |
| SAMPLE DATE: | 11/24/98 | 11/24/98 | 11/24/98 | 11/24/98 | 06/08/95 | 06/08/95 | 06/08/95 | 06/08/95 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0-0.5 | 0-0.5 | 0-0.5 | 0-0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 380 UJ | 210 UJ | 1700 UJ | 210 UJ | 190 U | 190 U | 190 U | 200 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,3-DINITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4 DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,6 DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HMX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| RDX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TETRYL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | 140 | N/A | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | 130 L | N/A | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | 94 | N/A | N/A | N/A | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | 12.6 UL | N/A | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | 1.3 U | N/A | N/A | N/A | N/A | N/A |
| PH | N/A | N/A | 5.8 | N/A | 5.96 | 5.95 | 5.65 | 4.41 |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | 29000 | N/A | N/A | N/A | N/A | N/A |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1000800 | 2SU1010800 | 2SU1020800 | 2SU1030800 | 2SU1040600 | 2SU1050400 | 2SU1060400 | 2SU1070400 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 | 2SB107 |
| SAMPLE DATE: | 11/30/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/14/98 | 12/07/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 6.0 - 8.0 | 4.0 - 4.0 | 4.0 - 6.0 | 4.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 17800 | 15700 J | 9570 J | 9600 J | 11300 J | 5290 | 9530 J | 7490 |
| ANTIMONY | 0.79 B | 1.1 L | 0.63 UL | 0.63 UL | 0.63 UL | 0.67 UL | 0.59 UL | 0.69 UL |
| ARSENIC | 3.1 K | 1.8 K | 1.5 K | 1.6 K | 0.90 K | 3.3 K | 2.2 K | 1.5 K |
| BARIUM | 138 | 106 J | 79.4 J | 15.9 J | 250 J | 32.8 | 70.9 J | 62.1 |
| BERYLLIUM | 2.4 | 0.01 U | 1.3 | 0.88 | 0.01 U | 0.32 B | 0.01 U | 0.24 B |
| CADMIUM | 0.05 U | 0.04 UL | 0.05 U | 0.05 U | 0.04 UL | 0.05 UL | 0.04 U | 0.05 U |
| CALCIUM | 450 J | 231 J | 176 J | 122 B | 691 J | 155 B | 528 J | 265 |
| CHROMIUM | 38.8 J | 22.6 J | 10.3 J | 5.4 J | 21.5 J | 9.4 | 12.9 J | 10.5 |
| COBALT | 11.4 | 15.4 | 12.2 | 10.8 | 17.1 | 3.3 K | 10.7 | 4.2 |
| COPPER | 54.3 | 22.0 J | 15.6 J | 8.2 J | 7.5 J | 5.5 J | 11.2 J | 7.6 J |
| CYANIDE | 0.16 U | 0.15 UL | 0.15 UL | 0.15 UL | 0.15 UL | 0.34 B | 0.14 UL | 0.17 UL |
| IRON | 36700 J | 36900 | 49000 | 10800 | 28400 | 27400 | 16300 | 10600 |
| LEAD | 18.9 | 7.5 | 21.7 | 20.1 | 5.4 | 7.1 | 3.2 | 7.1 |
| MAGNESIUM | 4670 | 5610 J | 932 J | 128 J | 4790 J | 487 | 3900 J | 1020 |
| MANGANESE | 133 J | 374 | 679 | 473 | 1920 | 37.4 | 113 | 58.6 |
| MERCURY | 0.06 U | 0.06 | 0.07 | 0.07 | 0.08 | 0.06 U | 0.05 U | 0.06 U |
| NICKEL | 59.0 | 44.8 J | 11.5 J | 3.8 J | 33.2 J | 4.7 | 12.9 J | 8.5 |
| POTASSIUM | 2390 | 8420 | 1350 | 138 | 6470 | 311 J | 3790 | 454 J |
| SELENIUM | 0.67 UL | 0.62 UJ | 1.5 B | 1.4 B | 0.81 B | 1.1 J | 0.59 UJ | 0.69 UJ |
| SILVER | 0.17 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.17 U | 0.15 U | 0.17 U |
| SODIUM | 58.1 B | 72.2 | 44.4 | 18.7 U | 140 | 190 | 139 | 354 |
| THALLIUM | 1.3 U | 3.4 K | 1.4 K | 1.3 U | 1.8 K | 1.3 U | 1.2 U | 1.4 U |
| VANADIUM | 50.4 | 30.8 | 13.9 | 5.7 | 22.0 | 20.5 | 13.5 | 14.3 |
| ZINC | 58.9 J | 171 | 57.0 | 9.4 B | 69.3 | 19.3 J | 50.7 | 34.3 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 1,2-DICHLOROBENZENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 1,3-DICHLOROBENZENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 1,4-DICHLOROBENZENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2,4,5-TRICHLOROPHENOL | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| 2,4,6-TRICHLOROPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2,4-DICHLOROPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2,4-DIMETHYLPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2,4-DINITROPHENOL | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| 2,4-DINITROTOLUENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2,6-DINITROTOLUENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1000800 | 2SU1010800 | 2SU1020800 | 2SU1030800 | 2SU1040600 | 2SU1050400 | 2SU1060400 | 2SU1070400 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 | 2SB107 |
| SAMPLE DATE: | 11/30/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/14/98 | 12/07/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 6.0 - 8.0 | 4.0 - 4.0 | 4.0 - 6.0 | 4.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2-CHLOROPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2-METHYLNAPHTHALENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2-METHYLPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 2-NITROANILINE | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| 2-NITROPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 3,3'-DICHLOROBENZIDINE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 3-NITROANILINE | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| 4,6-DINITRO-2-METHYLPHENOL | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| 4-BROMOPHENYL PHENYL ETHER | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 4-CHLORO-3-METHYLPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 4-CHLOROANILINE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 4-CHLOROPHENYL PHENYL ETHER | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 4-METHYLPHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| 4-NITROANILINE | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| 4-NITROPHENOL | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| ACENAPHTHENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| ACENAPHTHYLENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| ANTHRACENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BENZO(A)ANTHRACENE | 400 U | 370 U | 370 U | 350 U | 40 J | 390 U | 350 U | 410 U |
| BENZO(A)PYRENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BENZO(B)FLUORANTHENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BENZO(G,H,I)PERYLENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BENZO(K)FLUORANTHENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BIS(2-CHLOROETHOXY)METHANE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BIS(2-CHLOROETHYL)ETHER | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 400 U | 370 U | 2900 | 350 U | 670 | 390 U | 350 U | 410 U |
| BUTYLBENZYL PHTHALATE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| CARBAZOLE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| CHRYSENE | 400 U | 370 U | 370 U | 350 U | 39 J | 390 U | 350 U | 410 U |
| DI-N-BUTYL PHTHALATE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| DI-N-OCTYL PHTHALATE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| DIBENZO(A,H)ANTHRACENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| DIBENZOFURAN | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| DIETHYL PHTHALATE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| DIMETHYL PHTHALATE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| FLUORANTHENE | 400 U | 370 U | 370 U | 350 U | 64 J | 390 U | 350 U | 410 U |
| F[illegible]RENE | 400 U | 370 U | 370 [illegible] | 350 U | 370 U | 390 U | 350 U | 410 [illegible] |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1000800 | 2SU1010800 | 2SU1020800 | 2SU1030800 | 2SU1040600 | 2SU1050400 | 2SU1060400 | 2SU1070400 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 | 2SB107 |
| SAMPLE DATE: | 11/30/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/14/98 | 12/07/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 6.0 - 8.0 | 4.0 - 4.0 | 4.0 - 6.0 | 4.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| HEXACHLOROBUTADIENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| HEXACHLOROCYCLOPENTADIENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| HEXACHLOROETHANE | 180 J | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| INDENO(1,2,3-CD)PYRENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| ISOPHORONE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| N-NITROSO-DI-N-PROPYLAMINE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| N-NITROSODIPHENYLAMINE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| NAPHTHALENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| NITROBENZENE | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| PENTACHLOROPHENOL | 960 U | 890 U | 900 U | 850 U | 900 U | 960 U | 850 U | 990 U |
| PHENANTHRENE | 400 U | 370 U | 370 U | 350 U | 44 J | 390 U | 350 U | 410 U |
| PHENOL | 400 U | 370 U | 370 U | 350 U | 370 U | 390 U | 350 U | 410 U |
| PYRENE | 400 U | 370 U | 39 J | 350 U | 70 J | 390 U | 350 U | 410 U |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 2-BUTANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 2-HEXANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| ACETONE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| BENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| BROMOFORM | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| BROMOMETHANE | 1 B | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CARBON DISULFIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CARBON TETRACHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CHLOROBENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CHLORODIBROMOMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CHLOROFORM | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| CHLOROMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1000800 | 2SU1010800 | 2SU1020800 | 2SU1030800 | 2SU1040600 | 2SU1050400 | 2SU1060400 | 2SU1070400 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 | 2SB107 |
| SAMPLE DATE: | 11/30/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/14/98 | 12/07/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 6.0 - 8.0 | 4.0 - 4.0 | 4.0 - 6.0 | 4.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| ETHYLBENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| METHYLENE CHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| STYRENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| TETRACHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| TOLUENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| TRICHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| VINYL CHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| XYLENES, TOTAL | 12 U | 11 U | 11 U | 11 U | 11 U | 12 U | 11 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| 4,4'-DDE | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| 4,4'-DDT | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| ALDRIN | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| ALPHA-BHC | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| ALPHA-CHLORDANE | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.3 J | 2.0 U | 1.8 UL | 2.1 U |
| AROCLOR-1016 | 40 UL | 37 U | 37 UL | 35 UL | 37 U | 39 U | 35 UL | 41 U |
| AROCLOR-1221 | 81 UL | 75 U | 76 UL | 71 UL | 75 U | 80 U | 71 UL | 82 U |
| AROCLOR-1232 | 40 UL | 37 U | 37 UL | 35 UL | 37 U | 39 U | 35 UL | 41 U |
| AROCLOR-1242 | 40 UL | 37 U | 37 UL | 35 UL | 37 U | 39 U | 35 UL | 41 U |
| AROCLOR-1248 | 40 UL | 37 U | 37 UL | 35 UL | 37 U | 39 U | 35 UL | 41 U |
| AROCLOR-1254 | 40 UL | 37 U | 37 UL | 35 UL | 37 U | 39 U | 35 UL | 41 U |
| AROCLOR-1260 | 40 UL | 37 U | 160 J | 35 UL | 36 J | 39 U | 35 UL | 41 U |
| BETA-BHC | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| DELTA-BHC | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| DIELDRIN | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| ENDOSULFAN I | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| ENDOSULFAN II | 4.0 UL | 3.7 U | 5.3 R | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| ENDOSULFAN SULFATE | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| ENDRIN | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| ENDRIN ALDEHYDE | 4.0 UL | 3.7 U | 6.2 L | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| ENDRIN KETONE | 4.0 UL | 3.7 U | 3.7 UL | 3.5 UL | 3.7 U | 3.9 U | 3.5 UL | 4.1 U |
| GAMMA-BHC (LINDANE) | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| GAMMA-CHLORDANE | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| HEPTACHLOR | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| HEPTACHLOR EPOXIDE | 2.0 UL | 1.9 U | 1.9 UL | 1.8 UL | 1.9 U | 2.0 U | 1.8 UL | 2.1 U |
| M[illegible]OXYCHLOR | 20 UL | 19 U | 14 I | 18 UL | 19 U | 20 U | 18 UL | 21 U |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1000800 | 2SU1010800 | 2SU1020800 | 2SU1030800 | 2SU1040600 | 2SU1050400 | 2SU1060400 | 2SU1070400 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SB100/2GW100 | 2SB101/2GW101 | 2SB102 | 2SB103 | 2SB104 | 2SB105 | 2SB106 | 2SB107 |
| SAMPLE DATE: | 11/30/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/05/98 | 12/14/98 | 12/07/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 8.0 - 10.0 | 6.0 - 8.0 | 4.0 - 4.0 | 4.0 - 6.0 | 4.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 200 UL | 190 U | 190 UL | 180 UL | 190 U | 200 U | 180 UL | 210 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 2,6 DINITROTOLUENE | 0.089 J | 0.25 UJ | 0.23 J | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 UJ | 0.83 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| HMX | 0.50 U | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 U | 0.50 UJ | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 U | 0.25 UJ | 0.25 U |
| RDX | 0.50 U | 0.50 UJ | 0.2 J | 0.50 UJ | 0.50 UJ | 0.50 U | 0.50 UJ | 0.50 U |
| TETRYL | 0.65 U | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 U | 0.65 UJ | 0.65 U |

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SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1080600 | 2SU1090800 |
|---|---|---|
| LOCATION: | 2SB108 | 2SB109 |
| SAMPLE DATE: | 12/06/98 | 12/06/98 |
| DEPTH INTERVAL (FEET): | 6.0 - 7.0 | 8.0 - 10.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | |
| ALUMINUM | 19200 J | 17600 J |
| ANTIMONY | 1.0 L | 0.60 UL |
| ARSENIC | 1.2 K | 1.0 K |
| BARIUM | 108 J | 40.2 B |
| BERYLLIUM | 0.01 U | 0.71 K |
| CADMIUM | 0.04 UL | 0.04 UL |
| CALCIUM | 116 B | 42.5 B |
| CHROMIUM | 23.8 J | 34.2 J |
| COBALT | 15.1 | 17.0 |
| COPPER | 15.9 J | 22.3 J |
| CYANIDE | 0.14 UL | 0.14 UL |
| IRON | 26000 | 30000 |
| LEAD | 8.0 | 10.7 |
| MAGNESIUM | 4800 J | 2560 J |
| MANGANESE | 330 | 448 |
| MERCURY | 0.05 U | 0.06 |
| NICKEL | 25.5 J | 21.7 J |
| POTASSIUM | 6720 | 2820 |
| SELENIUM | 0.58 UJ | 0.60 UJ |
| SILVER | 0.15 U | 0.15 U |
| SODIUM | 111 | 46.9 |
| THALLIUM | 1.7 K | 2.0 K |
| VANADIUM | 29.7 | 29.6 |
| ZINC | 107 | 62.2 |
| **SEMIVOLATILES (ug/kg)** | | |
| 1,2,4-TRICHLOROBENZENE | 340 U | 350 U |
| 1,2-DICHLOROBENZENE | 340 U | 350 U |
| 1,3-DICHLOROBENZENE | 340 U | 350 U |
| 1,4-DICHLOROBENZENE | 340 U | 350 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 340 U | 350 U |
| 2,4,5-TRICHLOROPHENOL | 830 U | 860 U |
| 2,4,6-TRICHLOROPHENOL | 340 U | 350 U |
| 2,4-DICHLOROPHENOL | 340 U | 350 U |
| 2,4-DIMETHYLPHENOL | 340 U | 350 U |
| 2,4-DINITROPHENOL | 830 U | 860 U |
| 2,4-DINITROTOLUENE | 340 U | 350 U |
| 2,6-DINITROTOLUENE | 340 U | 350 U |

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SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1080600 | 2SU1090800 |
|---|---|---|
| LOCATION: | 2SB108 | 2SB109 |
| SAMPLE DATE: | 12/06/98 | 12/06/98 |
| DEPTH INTERVAL (FEET): | 6.0 - 7.0 | 8.0 - 10.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 340 U | 350 U |
| 2-CHLOROPHENOL | 340 U | 350 U |
| 2-METHYLNAPHTHALENE | 340 U | 350 U |
| 2-METHYLPHENOL | 340 U | 350 U |
| 2-NITROANILINE | 830 U | 860 U |
| 2-NITROPHENOL | 340 U | 350 U |
| 3,3'-DICHLOROBENZIDINE | 340 U | 350 U |
| 3-NITROANILINE | 830 U | 860 U |
| 4,6-DINITRO-2-METHYLPHENOL | 830 U | 860 U |
| 4-BROMOPHENYL PHENYL ETHER | 340 U | 350 U |
| 4-CHLORO-3-METHYLPHENOL | 340 U | 350 U |
| 4-CHLOROANILINE | 340 U | 350 U |
| 4-CHLOROPHENYL PHENYL ETHER | 340 U | 350 U |
| 4-METHYLPHENOL | 340 U | 350 U |
| 4-NITROANILINE | 830 U | 860 U |
| 4-NITROPHENOL | 830 U | 860 U |
| ACENAPHTHENE | 340 U | 350 U |
| ACENAPHTHYLENE | 340 U | 350 U |
| ANTHRACENE | 340 U | 350 U |
| BENZO(A)ANTHRACENE | 340 U | 350 U |
| BENZO(A)PYRENE | 340 U | 350 U |
| BENZO(B)FLUORANTHENE | 340 U | 350 U |
| BENZO(G,H,I)PERYLENE | 340 U | 350 U |
| BENZO(K)FLUORANTHENE | 340 U | 350 U |
| BIS(2-CHLOROETHOXY)METHANE | 340 U | 350 U |
| BIS(2-CHLOROETHYL)ETHER | 340 U | 350 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 340 U | 190 J |
| BUTYLBENZYL PHTHALATE | 340 U | 350 U |
| CARBAZOLE | 340 U | 350 U |
| CHRYSENE | 340 U | 350 U |
| DI-N-BUTYL PHTHALATE | 340 U | 48 J |
| DI-N-OCTYL PHTHALATE | 340 U | 350 U |
| DIBENZO(A,H)ANTHRACENE | 340 U | 350 U |
| DIBENZOFURAN | 340 U | 350 U |
| DIETHYL PHTHALATE | 340 U | 350 U |
| DIMETHYL PHTHALATE | 340 U | 350 U |
| FLUORANTHENE | 340 U | 350 U |
| FLUORENE | 340 U | 350 U |

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SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1080600 | 2SU1090800 |
|---|---|---|
| LOCATION: | 2SB108 | 2SB109 |
| SAMPLE DATE: | 12/06/98 | 12/06/98 |
| DEPTH INTERVAL (FEET): | 6.0 - 7.0 | 8.0 - 10.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 340 U | 350 U |
| HEXACHLOROBUTADIENE | 340 U | 350 U |
| HEXACHLOROCYCLOPENTADIENE | 340 U | 350 U |
| HEXACHLOROETHANE | 340 U | 350 U |
| INDENO(1,2,3-CD)PYRENE | 340 U | 350 U |
| ISOPHORONE | 340 U | 350 U |
| N-NITROSO-DI-N-PROPYLAMINE | 340 U | 350 U |
| N-NITROSODIPHENYLAMINE | 340 U | 350 U |
| NAPHTHALENE | 340 U | 350 U |
| NITROBENZENE | 340 U | 350 U |
| PENTACHLOROPHENOL | 830 U | 860 U |
| PHENANTHRENE | 340 U | 350 U |
| PHENOL | 340 U | 350 U |
| PYRENE | 340 U | 350 U |
| **VOLATILES (ug/kg)** | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 11 U |
| 1,1,2,2-TETRACHLOROETHANE | 10 U | 11 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 11 U |
| 1,1-DICHLOROETHANE | 10 U | 11 U |
| 1,1-DICHLOROETHENE | 10 U | 11 U |
| 1,2-DICHLOROETHANE | 10 U | 11 U |
| 1,2-DICHLOROETHENE (TOTAL) | 10 U | 11 U |
| 1,2-DICHLOROPROPANE | 10 U | 11 U |
| 2-BUTANONE | 10 U | 11 U |
| 2-HEXANONE | 10 U | 11 U |
| 4-METHYL-2-PENTANONE | 10 U | 11 U |
| ACETONE | 10 U | 11 U |
| BENZENE | 10 U | 11 U |
| BROMODICHLOROMETHANE | 10 U | 11 U |
| BROMOFORM | 10 U | 11 U |
| BROMOMETHANE | 10 U | 11 U |
| CARBON DISULFIDE | 10 U | 11 U |
| CARBON TETRACHLORIDE | 10 U | 11 U |
| CHLOROBENZENE | 10 U | 11 U |
| CHLORODIBROMOMETHANE | 10 U | 11 U |
| CHLOROETHANE | 10 U | 11 U |
| CHLOROFORM | 10 U | 11 U |
| CHLOROMETHANE | 10 U | 11 U |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 2SU1080600 | 2SU1090800 |
|---|---|---|
| LOCATION: | 2SB108 | 2SB109 |
| SAMPLE DATE: | 12/06/98 | 12/06/98 |
| DEPTH INTERVAL (FEET): | 6.0 - 7.0 | 8.0 - 10.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 10 U | 11 U |
| ETHYLBENZENE | 10 U | 11 U |
| METHYLENE CHLORIDE | 10 U | 11 U |
| STYRENE | 10 U | 11 U |
| TETRACHLOROETHENE | 10 U | 11 U |
| TOLUENE | 10 U | 11 U |
| TRANS-1,3-DICHLOROPROPENE | 10 U | 11 U |
| TRICHLOROETHENE | 10 U | 11 U |
| VINYL CHLORIDE | 10 U | 11 U |
| XYLENES, TOTAL | 10 U | 11 U |
| **PESTICIDES/PCBs (ug/kg)** | | |
| 4,4'-DDD | 3.4 UL | 3.5 UL |
| 4,4'-DDE | 3.4 UL | 3.5 UL |
| 4,4'-DDT | 3.4 UL | 3.5 UL |
| ALDRIN | 1.8 UL | 1.8 UL |
| ALPHA-BHC | 1.8 UL | 1.8 UL |
| ALPHA-CHLORDANE | 1.8 UL | 1.8 UL |
| AROCLOR-1016 | 34 UL | 35 UL |
| AROCLOR-1221 | 70 UL | 72 UL |
| AROCLOR-1232 | 34 UL | 35 UL |
| AROCLOR-1242 | 34 UL | 35 UL |
| AROCLOR-1248 | 34 UL | 35 UL |
| AROCLOR-1254 | 34 UL | 35 UL |
| AROCLOR-1260 | 34 UL | 35 UL |
| BETA-BHC | 1.8 UL | 1.8 UL |
| DELTA-BHC | 1.8 UL | 1.8 UL |
| DIELDRIN | 3.4 UL | 3.5 UL |
| ENDOSULFAN I | 1.8 UL | 1.8 UL |
| ENDOSULFAN II | 3.4 UL | 3.5 UL |
| ENDOSULFAN SULFATE | 3.4 UL | 3.5 UL |
| ENDRIN | 3.4 UL | 3.5 UL |
| ENDRIN ALDEHYDE | 3.4 UL | 3.5 UL |
| ENDRIN KETONE | 3.4 UL | 3.5 UL |
| GAMMA-BHC (LINDANE) | 1.8 UL | 1.8 UL |
| GAMMA-CHLORDANE | 1.8 UL | 1.8 UL |
| HEPTACHLOR | 1.8 UL | 1.8 UL |
| HEPTACHLOR EPOXIDE | 1.8 UL | 1.8 UL |
| METHOXYCHLOR | 18 UL | 18 UL |

TABLE I-2

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| **SAMPLE I.D.:** | **2SU1080600** | **2SU1090800** |
|---|---|---|
| **LOCATION:** | **2SB108** | **2SB109** |
| **SAMPLE DATE:** | **12/06/98** | **12/06/98** |
| **DEPTH INTERVAL (FEET):** | **6.0 - 7.0** | **8.0 - 10.0** |
| **VALIDATION STATUS:** | **VALIDATED** | **VALIDATED** |
| TOXAPHENE | 180 UL | 180 UL |
| **EXPLOSIVES (mg/kg)** | | |
| 1,3,5-TRINITROBENZENE | 0.25 UJ | 0.25 UJ |
| 1,3-DINITROBENZENE | 0.25 UJ | 0.25 UJ |
| 2,4 DINITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 2,4,6-TRINITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 2,6 DINITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 2-NITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 3-NITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 UJ | 0.25 UJ |
| 4-NITROTOLUENE | 0.25 UJ | 0.25 UJ |
| HMX | 0.50 UJ | 0.50 UJ |
| NITROBENZENE | 0.25 UJ | 0.25 UJ |
| RDX | 0.50 UJ | 0.50 UJ |
| TETRYL | 0.65 UJ | 0.65 UJ |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW300001 | 2GW310001 | 2GW320001 | 2GW450001 | 2GW760001 | 2GW1000001 | 2GW1000001-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2GW30 | 2GW31 | 2GW32 | 2GW45 | 2GW76 | 2GW100 | 2GW100 |
| SAMPLE DATE: | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 | 02/09/99 | 02/09/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | | 2GW1000001-D | 2GW1000001 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | |
| ALUMINUM | 312 B | 24700 | 14300 | 8750 | 733 B | 91.2 B | 83.1 B |
| ANTIMONY | 1.9 U | 1.9 U | 3.8 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 5.8 | 15.2 | 2.8 | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 39.7 | 333 | 182 | 101 | 49.4 | 454 | 421 |
| BERYLLIUM | 0.10 U | 3.2 B | 7.0 | 1.1 B | 0.91 B | 0.12 B | 0.18 B |
| CADMIUM | 2.7 UJ | 2.7 UJ | 12.1 B | 2.7 UJ | 2.7 UJ | 2.7 UL | 2.7 UL |
| CALCIUM | 65500 | 8300 | 205000 | 45800 | 2300 | 92200 | 84600 |
| CHROMIUM | 15.8 | 24.4 | 4.0 B | 13.1 | 10.0 B | 2.3 U | 2.3 U |
| COBALT | 4.4 | 38.7 | 132 | 15.9 | 13.3 | 18.5 | 19.1 |
| COPPER | 4.9 | 59.0 | 19.2 | 55.3 | 2.4 U | 2.4 UL | 2.4 UL |
| CYANIDE | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U |
| IRON | 634 | 41800 | 87.4 B | 21300 | 818 | 42.4 L | 40.3 L |
| LEAD | 1.0 U | 20.2 | 7.7 | 7.3 | 11.0 | 1.0 U | 1.0 U |
| MAGNESIUM | 38800 | 9490 | 130000 | 24300 | 1160 | 33500 | 30900 |
| MANGANESE | 1460 | 1390 | 24700 | 684 | 214 | 927 | 856 |
| MERCURY | 0.20 U | 0.92 | 2.4 | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 20.8 | 39.1 | 206 | 22.5 | 21.1 | 28.6 | 11.9 |
| POTASSIUM | 6620 | 6610 | 34400 | 5020 | 2000 | 9100 | 8650 |
| SELENIUM | 2.5 U | 2.5 U | 5.0 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 254000 | 3970 | 4720000 | 211000 | 69600 | 327000 | 299000 |
| THALLIUM | 3.6 B | 4.5 B | 11.9 B | 2.9 U | 2.9 U | 2.9 U | 3.3 B |
| VANADIUM | 2.1 U | 25.7 | 2.1 U | 11.5 | 2.1 U | 2.1 U | 2.1 U |
| ZINC | 14.3 B | 105 | 411 | 86.9 | 8.9 B | 36.3 | 36.7 |
| **SEMIVOLATILES (ug/L)** | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 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 |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW300001 | 2GW310001 | 2GW320001 | 2GW450001 | 2GW760001 | 2GW1000001 | 2GW1000001-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2GW30 | 2GW31 | 2GW32 | 2GW45 | 2GW76 | 2GW100 | 2GW100 |
| SAMPLE DATE: | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 | 02/09/99 | 02/09/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | | 2GW1000001-D | 2GW1000001 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 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 PHENYL ETHER | 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 PHENYL ETHER | 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 |
| 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 | 1.4 J | 5 U | 5 U | 3.2 B |
| BUTYLBENZYL PHTHALATE | 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-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 1.7 J | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(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 |
| DIETHYL PHTHALATE | 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 |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW300001 | 2GW310001 | 2GW320001 | 2GW450001 | 2GW760001 | 2GW1000001 | 2GW1000001-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2GW30 | 2GW31 | 2GW32 | 2GW45 | 2GW76 | 2GW100 | 2GW100 |
| SAMPLE DATE: | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 | 02/09/99 | 02/09/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | | 2GW1000001-D | 2GW1000001 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 |
| 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 |
| 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 | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 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 |
| **VOLATILES (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 |
| 1,2 DICHLOROBENZENE | 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 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 | 1.4 | 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 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 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 |
| ACETONE | 1.9 L | 2 L | 2 L | 2 L | 1.6 L | 5 UR | 5 UR |
| 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 |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW300001 | 2GW310001 | 2GW320001 | 2GW450001 | 2GW760001 | 2GW1000001 | 2GW1000001-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2GW30 | 2GW31 | 2GW32 | 2GW45 | 2GW76 | 2GW100 | 2GW100 |
| SAMPLE DATE: | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 | 02/09/99 | 02/09/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | | 2GW1000001-D | 2GW1000001 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 DISULFIDE | 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 |
| CHLORODIBROMOMETHANE | 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 | 0.55 J | 1 U | 1 U | 0.96 J | 0.96 J |
| CHLOROMETHANE | 1 U | 1 U | 0.29 J | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 0.31 J | 1 U | 1.4 | 1 U | 1 U | 0.31 J | 0.33 J |
| CIS-1,3-DICHLOROPROPENE | 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 | 2 U | 2 U | 1.9 J | 2 U | 2 U | 2 U | 2 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 |
| 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 |
| TRICHLOROETHENE | 4.2 J | 1 U | 35 J | 1.7 | 1 U | 4.2 | 4 |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 UL | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW300001 | 2GW310001 | 2GW320001 | 2GW450001 | 2GW760001 | 2GW1000001 | 2GW1000001-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2GW30 | 2GW31 | 2GW32 | 2GW45 | 2GW76 | 2GW100 | 2GW100 |
| SAMPLE DATE: | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 | 02/09/99 | 02/09/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | | 2GW1000001-D | 2GW1000001 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| AROCLOR-1260 | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 UL | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 UL | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 3.4 | 0.50 U | 0.50 U | 8.6 | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 1 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.40 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW1010001 | 2GW1020001 | 2GW1030001 | 2GW1040001 | 2GW1050001 |
|---|---|---|---|---|---|
| LOCATION: | 2GW101 | 2GW102 | 2GW103 | 2GW104 | 2GW105 |
| SAMPLE DATE: | 02/09/99 | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | |
| ALUMINUM | 455 B | 22.5 B | 2000 | 104 B | 11900 |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 3.1 |
| BARIUM | 208 | 730 | 64.6 | 317 | 257 |
| BERYLLIUM | 0.16 B | 0.10 U | 0.10 U | 0.10 U | 1.2 B |
| CADMIUM | 2.9 B | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ |
| CALCIUM | 20700 | 93900 | 21200 | 75600 | 20600 |
| CHROMIUM | 15.2 | 2.3 U | 5.1 B | 8.8 B | 39.1 |
| COBALT | 9.8 | 3.3 U | 3.3 U | 3.3 U | 23.4 |
| COPPER | 5.6 | 2.4 U | 4.4 | 3.6 | 34.7 |
| CYANIDE | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U |
| IRON | 1090 | 16000 | 3860 | 1740 | 22600 |
| LEAD | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 7.2 |
| MAGNESIUM | 12700 | 37800 | 8320 | 20200 | 14300 |
| MANGANESE | 476 | 1850 | 441 | 389 | 459 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 32.8 | 9.9 | 7.5 U | 7.5 U | 91.9 |
| POTASSIUM | 3970 | 9380 | 8740 | 8790 | 9890 |
| SELENIUM | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 60300 | 28500 | 40200 | 46000 | 31800 |
| THALLIUM | 3.3 B | 5.2 B | 2.9 U | 2.9 U | 4.6 B |
| VANADIUM | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 16.8 |
| ZINC | 40.9 B | 9.1 B | 20.4 B | 7.7 B | 81.2 |
| **SEMIVOLATILES (ug/L)** | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW1010001 | 2GW1020001 | 2GW1030001 | 2GW1040001 | 2GW1050001 |
|---|---|---|---|---|---|
| LOCATION: | 2GW101 | 2GW102 | 2GW103 | 2GW104 | 2GW105 |
| SAMPLE DATE: | 02/09/99 | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 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 |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| ACENAPHTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(B)FLUORANTHENE | 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 |
| BENZO(K)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U | 2.1 J | 5 U | 1.1 J |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 25 | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW1010001 | 2GW1020001 | 2GW1030001 | 2GW1040001 | 2GW1050001 |
|---|---|---|---|---|---|
| LOCATION: | 2GW101 | 2GW102 | 2GW103 | 2GW104 | 2GW105 |
| SAMPLE DATE: | 02/09/99 | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| FLUORENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROETHANE | 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 |
| ISOPHORONE | 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 |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACETONE | 2 L | 3.6 L | 5 UR | 2.5 L | 1.8 L |
| BENZENE | 1 U | 1 U | 1 U | 1.1 | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW1010001 | 2GW1020001 | 2GW1030001 | 2GW1040001 | 2GW1050001 |
|---|---|---|---|---|---|
| LOCATION: | 2GW101 | 2GW102 | 2GW103 | 2GW104 | 2GW105 |
| SAMPLE DATE: | 02/09/99 | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOFORM | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROBENZENE | 1 | 1 U | 1 U | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROFORM | 0.41 J | 1 U | 1 U | 1 U | 1 U |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 7.1 | 1 U | 1.5 | 0.46 J |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 0.65 J | 2 U | 2 U |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1. U |
| TOLUENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 1.2 | 19 | 0.86 J | 1.5 J | 1.8 |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| ALDRIN | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| ALPHA-BHC | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| ALPHA-CHLORDANE | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.1 U |
| AROCLOR-1221 | 2.1 U | 2.0 U | 2.0 UL | 2.0 U | 2.2 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.1 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.1 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.1 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.1 U |

TABLE I-3

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 2GW1010001 | 2GW1020001 | 2GW1030001 | 2GW1040001 | 2GW1050001 |
|---|---|---|---|---|---|
| LOCATION: | 2GW101 | 2GW102 | 2GW103 | 2GW104 | 2GW105 |
| SAMPLE DATE: | 02/09/99 | 02/09/99 | 02/10/99 | 02/10/99 | 02/09/99 |
| ASSOCIATED DUPLICATE: | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.1 U |
| BETA-BHC | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| DELTA-BHC | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| ENDOSULFAN I | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.11 U |
| GAMMA-BHC (LINDANE) | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| GAMMA-CHLORDANE | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| HEPTACHLOR | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| HEPTACHLOR EPOXIDE | 0.052 U | 0.050 U | 0.050 UL | 0.050 U | 0.056 U |
| METHOXYCHLOR | 0.52 U | 0.50 U | 0.50 UL | 0.50 U | 0.56 U |
| TOXAPHENE | 5.2 U | 5.0 U | 5.0 UL | 5.0 U | 5.6 U |
| **EXPLOSIVES (ug/L)** | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.26 | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 1.1 |
| NITROBENZENE | 0.20 U | 0.29 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 3.7 U | 0.87 | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | |
| AMMONIUM PERCHLORATE | 5.89 | 5 U | 5 U | 5 U | 5 U |

TABLE I-4

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES

| SAMPLE I.D.: | 2GW310001-F | 2GW450001-F | 2GW760001-F |
|---|---|---|---|
| LOCATION: | 2GW31 | 2GW45 | 2GW76 |
| SAMPLE DATE: | 02/10/99 | 02/09/99 | 02/09/99 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.0 | 0.0 - 0.0 | 0.0 - 0.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | |
| ALUMINUM, FILTERED | 35.2 B | 27.4 B | 64.4 B |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 15.8 | 54 | 21.7 |
| BERYLLIUM, FILTERED | 0.1 U | 0.1 U | 0.49 B |
| CADMIUM, FILTERED | 2.7 UJ | 2.7 UJ | 2.7 UJ |
| CALCIUM, FILTERED | 3500 | 50200 | 2090 |
| CHROMIUM, FILTERED | 2.3 U | 3.3 B | 2.3 U |
| COBALT, FILTERED | 3.3 U | 7.2 | 10.9 |
| COPPER, FILTERED | 2.4 U | 2.4 U | 2.4 U |
| IRON, FILTERED | 16 B | 62.4 B | 130 B |
| LEAD, FILTERED | 1 U | 1 U | 1.4 |
| MAGNESIUM, FILTERED | 2260 | 24400 | 1030 |
| MANGANESE, FILTERED | 22.5 | 558 | 132 |
| MERCURY, FILTERED | 0.2 U | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 7.5 U | 7.5 U | 10.7 |
| POTASSIUM, FILTERED | 1120 | 4110 | 1900 |
| SELENIUM, FILTERED | 2.5 U | 2.5 U | 2.5 U |
| SILVER, FILTERED | 2.8 U | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 3010 | 223000 | 67400 |
| THALLIUM, FILTERED | 3.5 B | 3.1 B | 4 B |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 7.3 B | 12.7 B | 17 B |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1000001 | 2SW1010001 | 2SW1020001 | 2SW1030001 | 2SW1040001 | 2SW1050001 | 2SW1060001 | 2SW1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 198 B | 308 | 420 | 663 | 486 | 88.2 B | 92.5 B | 210 B |
| ANTIMONY | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 26.9 | 15.4 | 16.1 | 64.5 | 58.5 | 50.8 | 50.6 | 55.0 |
| BERYLLIUM | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| CADMIUM | 2.7 U | 2.7 U | 5.6 | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U |
| CALCIUM | 28400 | 15000 | 14800 | 32700 | 21400 | 20400 | 20600 | 23200 |
| CHROMIUM | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U |
| COBALT | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U |
| COPPER | 22.4 | 12.6 B | 12.6 B | 16.6 B | 22.2 | 14.6 B | 11.4 B | 10.4 B |
| CYANIDE | 3.4 | 7.2 | 6.0 | 2.7 U | 2.7 U | 2.7 U | 3.2 | 2.7 U |
| IRON | 222 J | 404 J | 689 J | 1110 J | 953 J | 257 J | 221 J | 204 J |
| LEAD | 1.0 U | 2.4 | 3.1 | 19.0 | 2.3 | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 3270 | 1920 | 1900 | 5200 | 7360 | 6890 | 6890 | 8550 |
| MANGANESE | 5.7 B | 11.9 | 9.2 B | 377 | 235 | 97.0 | 136 | 409 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 11.4 L | 10.1 L | 8.5 L | 10.2 L | 8.6 L | 9.7 L | 9.3 L | 7.5 UL |
| POTASSIUM | 9750 | 6300 | 6590 | 7300 | 3920 | 3930 | 3760 | 4000 |
| SELENIUM | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 3.2 B |
| SODIUM | 116000 | 39800 | 42900 | 70700 | 30900 | 29600 | 38300 | 90800 |
| THALLIUM | 3.1 | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 2.9 U |
| VANADIUM | 2.7 B | 3.8 B | 4.7 B | 6.0 B | 2.3 B | 2.4 B | 2.1 U | 2.1 U |
| ZINC | 34.4 K | 37.7 K | 38.6 K | 84.3 | 50.2 | 37.1 K | 35.6 K | 40.8 |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 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 | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 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 | 5 U |
| 2,4-DINITROPHENOL | 20 U | 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 | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 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 | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1000001 | 2SW1010001 | 2SW1020001 | 2SW1030001 | 2SW1040001 | 2SW1050001 | 2SW1060001 | 2SW1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-METHYLPHENOL | 5 U | 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 | 20 U |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 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 | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-NITROANILINE | 20 U | 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 | 20 U |
| ACENAPHTHENE | 5 U | 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 | 5 U |
| ANTHRACENE | 5 U | 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 | 5 U |
| BENZO(A)PYRENE | 5 U | 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 | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 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 | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 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 | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 6.5 | 5 U | 5 U | 1.7 J | 5 U | 5 U | 1.7 J |
| BUTYLBENZYL PHTHALATE | 5 U | 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 | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 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 | 5 U |
| DIETHYL PHTHALATE | 5 U | 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 | 5 U |
| FLUORANTHENE | 5 U | 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 | 5 U |
| HEXACHLOROBENZENE | 5 U | 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 | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1000001 | 2SW1010001 | 2SW1020001 | 2SW1030001 | 2SW1040001 | 2SW1050001 | 2SW1060001 | 2SW1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROETHANE | 5 U | 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 | 5 U |
| ISOPHORONE | 5 U | 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 | 5 U |
| N-NITROSODIPHENYLAMINE | 5 U | 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 | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 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 | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 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 |
| 1,1-DICHLOROETHENE | 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 |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 |
| 1,2-DICHLOROPROPANE | 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 |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 5 UR | 5 U | 5 U | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 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 |
| ACETONE | 5 UR | 3.5 J | 2.5 J | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| BENZENE | 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 |
| BROMODICHLOROMETHANE | 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 |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 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 |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 2 | 1 U | 1 U | 1 U | 1 U |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1000001 | 2SW1010001 | 2SW1020001 | 2SW1030001 | 2SW1040001 | 2SW1050001 | 2SW1060001 | 2SW1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLORODIBROMOMETHANE | 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 |
| CHLOROFORM | 1 U | 1 U | 1 U | 1 U | 0.31 J | 0.25 J | 1 U | 1 U |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 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 |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 0.87 J | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| STYRENE | 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 |
| TOLUENE | 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 |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 0.47 J | 0.34 J | 0.26 J | 0.5 J |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| ALDRIN | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 UL | 2.0 UL |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1000001 | 2SW1010001 | 2SW1020001 | 2SW1030001 | 2SW1040001 | 2SW1050001 | 2SW1060001 | 2SW1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 UL | 0.50 UL |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 UL | 5.0 UL |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | | | | | | | |
| TOTAL DISSOLVED SOLIDS | 390 | 180 | 48 | 280 | 160 | 10 U | 10 U | 400 |
| TOTAL SUSPENDED SOLIDS | 4 U | 17 | 11 | 6 | 21 | 4 U | 4 U | 4 U |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1080001 | 2SW1090001 | 2SW1090001-D | 2SW1100001 | 2SW1110001 | 2SW1120001 | 2SW1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | 2SW/SD112 | 2SW/SD113 |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SW1090001-D | 2SW1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | |
| ALUMINUM | 297 | 257 B | 246 B | 204 B | 174 B | 77.4 B | 133 B |
| ANTIMONY | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL | 19.6 UL |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 2.0 B | 1.5 U | 1.5 U |
| BARIUM | 62.6 | 64.5 | 65.5 | 62.6 | 65.7 | 53.1 | 35.9 |
| BERYLLIUM | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| CADMIUM | 2.7 U | 2.7 U | 3.9 | 2.7 U | 2.7 U | 2.7 U | 2.7 U |
| CALCIUM | 29500 | 31500 | 32600 | 31000 | 32200 | 18700 | 28800 |
| CHROMIUM | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U |
| COBALT | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U |
| COPPER | 14.0 B | 17.7 B | 13.4 B | 15.6 B | 15.4 B | 9.8 B | 28.4 |
| CYANIDE | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 6.4 |
| IRON | 232 J | 349 J | 218 J | 188 J | 170 J | 420 J | 165 J |
| LEAD | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.6 |
| MAGNESIUM | 12100 | 12400 | 12600 | 12000 | 12600 | 7120 | 7810 |
| MANGANESE | 735 | 614 | 630 | 503 | 471 | 170 | 17.3 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.38 |
| NICKEL | 7.7 L | 7.5 UL | 7.5 UL | 8.6 L | 7.5 UL | 7.5 UL | 7.5 UL |
| POTASSIUM | 5160 | 5490 | 5230 | 5310 | 5600 | 3040 | 5490 |
| SELENIUM | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL |
| SILVER | 2.8 U | 2.8 U | 3.5 B | 3.6 B | 2.8 U | 3.3 B | 2.8 U |
| SODIUM | 141000 | 137000 | 136000 | 130000 | 133000 | 21900 | 50400 |
| THALLIUM | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 2.9 U |
| VANADIUM | 2.1 U | 2.4 B | 2.1 U | 2.1 U | 3.3 B | 2.3 B | 2.1 U |
| ZINC | 49.8 | 49.7 | 51.2 | 46.5 | 44.8 | 38.4 K | 19.1 K |
| **SEMIVOLATILES (ug/L)** | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 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 |
| 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 |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1080001 | 2SW1090001 | 2SW1090001-D | 2SW1100001 | 2SW1110001 | 2SW1120001 | 2SW1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | 2SW/SD112 | 2SW/SD113 |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SW1090001-D | 2SW1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 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 PHENYL ETHER | 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 PHENYL ETHER | 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 |
| 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 |
| BUTYLBENZYL PHTHALATE | 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-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(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 |
| DIETHYL PHTHALATE | 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 |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1080001 | 2SW1090001 | 2SW1090001-D | 2SW1100001 | 2SW1110001 | 2SW1120001 | 2SW1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | 2SW/SD112 | 2SW/SD113 |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SW1090001-D | 2SW1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 |
| 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 |
| 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 | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 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 |
| **VOLATILES (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 |
| 1,2 DICHLOROBENZENE | 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 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 UR | 5 U | 5 U | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 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 |
| ACETONE | 5 UR | 5 UR | 5 UR | 1.6 J | 5 UR | 5 UR | 1.9 J |
| 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 DISULFIDE | 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 |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1080001 | 2SW1090001 | 2SW1090001-D | 2SW1100001 | 2SW1110001 | 2SW1120001 | 2SW1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | 2SW/SD112 | 2SW/SD113 |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SW1090001-D | 2SW1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLORODIBROMOMETHANE | 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 | 0.54 J | 0.51 J |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 0.99 J |
| CIS-1,3-DICHLOROPROPENE | 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 | 2 U | 2 U | 2 U | 2 U | 0.52 J | 2 U | 2 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 | 0.31 J | 1 U |
| TOLUENE | 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 |
| TRICHLOROETHENE | 1.6 | 1.3 | 1.3 | 0.81 J | 0.62 J | 0.46 J | 1.2 |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |

TABLE I-5

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 2SW1080001 | 2SW1090001 | 2SW1090001-D | 2SW1100001 | 2SW1110001 | 2SW1120001 | 2SW1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | 2SW/SD112 | 2SW/SD113 |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SW1090001-D | 2SW1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | | | | | | |
| TOTAL DISSOLVED SOLIDS | 550 | 670 | 500 | 600 | 570 | 76 | 210 |
| TOTAL SUSPENDED SOLIDS | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U | 4 U |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1000001 | 2SD1010001 | 2SD1020001 | 2SD1030001 | 2SD1040001 | 2SD1050001 | 2SD1060001 | 2SD1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 5810 | 2070 | 9000 | 2790 | 4240 | 4960 | 4770 | 5460 |
| ANTIMONY | 0.73 UL | 0.75 UL | 0.82 UL | 0.72 UL | 0.73 UL | 0.72 UL | 0.70 UL | 0.76 UL |
| ARSENIC | 2.6 | 1.6 | 3.1 | 1.9 | 0.80 | 1.1 | 1.0 | 0.92 |
| BARIUM | 49.9 | 16.1 | 44.7 | 35.9 | 37.9 | 47.5 | 32.8 | 48.7 |
| BERYLLIUM | 0.05 B | 0.02 U | 0.02 U | 0.07 B | 0.04 B | 0.13 B | 0.19 B | 0.09 B |
| CADMIUM | 2.9 | 0.85 | 0.86 | 0.71 | 0.31 B | 0.47 | 0.05 U | 0.05 U |
| CALCIUM | 5040 | 4360 | 1520 | 659 | 578 | 1500 | 446 | 481 |
| CHROMIUM | 66.7 J | 22.8 J | 27.6 J | 10.8 J | 9.2 J | 11.9 J | 9.4 J | 9.2 J |
| COBALT | 7.6 | 3.6 | 7.1 | 4.5 | 7.0 | 6.7 | 10.4 | 8.8 |
| COPPER | 56.9 | 27.6 | 34.1 | 12.0 | 27.9 | 35.7 | 18.0 | 23.2 |
| CYANIDE | 3.3 U | 3.3 U | 3.7 U | 3.2 U | 3.3 U | 3.2 U | 3.1 U | 3.4 U |
| IRON | 14800 | 6930 | 14800 | 13000 | 11200 | 13600 | 11200 | 12700 |
| LEAD | 246 L | 56.9 L | 98.8 L | 86.0 L | 12.8 L | 12.7 L | 9.1 L | 10.7 L |
| MAGNESIUM | 5280 | 2630 | 1770 | 769 | 1660 | 1390 | 1380 | 1860 |
| MANGANESE | 171 J | 169 J | 284 J | 552 J | 631 J | 751 J | 692 J | 705 J |
| MERCURY | 0.32 | 0.11 | 0.17 | 0.10 | 0.07 | 0.08 | 0.06 U | 0.07 |
| NICKEL | 65.8 | 39.9 | 22.7 | 12.0 | 22.0 | 17.9 | 13.9 | 19.9 |
| POTASSIUM | 677 | 229 | 799 | 245 | 865 | 1000 | 1380 | 1670 |
| SELENIUM | 0.73 UL | 0.83 L | 0.84 L | 0.72 L | 0.73 UL | 0.72 UL | 0.70 UL | 0.76 UL |
| SILVER | 0.50 U | 0.51 U | 1.6 | 0.49 U | 0.50 U | 0.49 U | 0.47 U | 0.51 U |
| SODIUM | 181 B | 140 B | 242 B | 77.3 B | 134 B | 65.6 B | 299 | 78.2 B |
| THALLIUM | 1.5 UL | 1.5 UL | 1.6 UL | 1.4 UL | 1.5 UL | 1.4 UL | 1.4 UL | 1.5 UL |
| VANADIUM | 22.1 | 14.2 | 29.6 | 17.3 | 13.9 | 11.2 | 12.4 | 11.6 |
| ZINC | 347 J | 111 J | 140 J | 105 J | 61.6 J | 94.7 J | 45.0 J | 63.6 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 1,2-DICHLOROBENZENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 1,3-DICHLOROBENZENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 1,4-DICHLOROBENZENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2,4,5-TRICHLOROPHENOL | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| 2,4,6-TRICHLOROPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2,4-DICHLOROPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2,4-DIMETHYLPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2,4-DINITROPHENOL | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| 2,4-DINITROTOLUENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2,6-DINITROTOLUENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2-[illegible]RONAPHTHALENE | 1700 UJ | 440 UJ | [illegible] | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 4[illegible] |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1000001 | 2SD1010001 | 2SD1020001 | 2SD1030001 | 2SD1040001 | 2SD1050001 | 2SD1060001 | 2SD1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2-METHYLNAPHTHALENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2-METHYLPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 2-NITROANILINE | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| 2-NITROPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 3,3'-DICHLOROBENZIDINE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 3-NITROANILINE | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| 4,6-DINITRO-2-METHYLPHENOL | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| 4-BROMOPHENYL PHENYL ETHER | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 4-CHLORO-3-METHYLPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 4-CHLOROANILINE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 4-CHLOROPHENYL PHENYL ETHER | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 4-METHYLPHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| 4-NITROANILINE | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| 4-NITROPHENOL | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| ACENAPHTHENE | 570 J | 49 J | 93 J | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| ACENAPHTHYLENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| ANTHRACENE | 860 J | 66 J | 160 J | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| BENZO(A)ANTHRACENE | 3100 J | 410 J | 980 J | 100 J | 430 UJ | 420 UJ | 620 J | 57 J |
| BENZO(A)PYRENE | 2300 J | 420 J | 990 J | 100 J | 430 UJ | 420 UJ | 390 J | 51 J |
| BENZO(B)FLUORANTHENE | 3500 J | 1100 J | 1800 J | 190 J | 80 J | 62 J | 740 J | 75 J |
| BENZO(G,H,I)PERYLENE | 840 J | 250 J | 450 J | 52 J | 430 UJ | 420 UJ | 100 J | 440 UJ |
| BENZO(K)FLUORANTHENE | 1500 J | 290 J | 470 J | 80 J | 430 UJ | 420 UJ | 220 J | 440 UJ |
| BIS(2-CHLOROETHOXY)METHANE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| BIS(2-CHLOROETHYL)ETHER | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| BIS(2-ETHYLHEXYL)PHTHALATE | 2100 J | 200 J | 100 J | 420 UJ | 430 UJ | 47 J | 410 UJ | 440 UJ |
| BUTYLBENZYL PHTHALATE | 240 J | 60 J | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| CARBAZOLE | 590 J | 110 J | 220 J | 420 UJ | 430 UJ | 420 UJ | 52 J | 440 UJ |
| CHRYSENE | 4200 J | 760 J | 1100 J | 150 J | 46 J | 47 J | 620 J | 440 UJ |
| DI-N-BUTYL PHTHALATE | 1700 UJ | 64 J | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| DI-N-OCTYL PHTHALATE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| DIBENZO(A,H)ANTHRACENE | 330 J | 73 J | 140 J | 420 UJ | 430 UJ | 420 UJ | 50 J | 440 UJ |
| DIBENZOFURAN | 320 J | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| DIETHYL PHTHALATE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| DIMETHYL PHTHALATE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| FLUORANTHENE | 9100 J | 1500 J | 2600 J | 290 J | 93 J | 53 J | 1600 J | 140 J |
| FLUORENE | 670 J | 440 UJ | 120 J | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| HEXACHLOROBENZENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| HEXACHLOROBUTADIENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1000001 | 2SD1010001 | 2SD1020001 | 2SD1030001 | 2SD1040001 | 2SD1050001 | 2SD1060001 | 2SD1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| HEXACHLOROETHANE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| INDENO(1,2,3-CD)PYRENE | 1300 J | 290 J | 570 J | 63 J | 430 UJ | 420 UJ | 190 J | 440 UJ |
| ISOPHORONE | 370 J | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| N-NITROSO-DI-N-PROPYLAMINE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| N-NITROSODIPHENYLAMINE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| NAPHTHALENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| NITROBENZENE | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| PENTACHLOROPHENOL | 4200 UJ | 1100 UJ | 1200 UJ | 1000 UJ | 1000 UJ | 1000 UJ | 990 UJ | 1100 UJ |
| PHENANTHRENE | 6800 J | 670 J | 1500 J | 140 J | 70 J | 420 UJ | 400 J | 71 J |
| PHENOL | 1700 UJ | 440 UJ | 480 UJ | 420 UJ | 430 UJ | 420 UJ | 410 UJ | 440 UJ |
| PYRENE | 5900 J | 960 J | 1600 J | 190 J | 76 J | 420 UJ | 1100 J | 95 J |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,1,2,2-TETRACHLOROETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,1,2-TRICHLOROETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,1-DICHLOROETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,1-DICHLOROETHENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,2-DICHLOROETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,2-DICHLOROETHENE (TOTAL) | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 1,2-DICHLOROPROPANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 2-BUTANONE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 2-HEXANONE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| 4-METHYL-2-PENTANONE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| ACETONE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| BENZENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| BROMODICHLOROMETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| BROMOFORM | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| BROMOMETHANE | 13 U | 13 U | 15 U | 2 B | 13 U | 13 U | 12 U | 14 U |
| CARBON DISULFIDE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| CARBON TETRACHLORIDE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| CHLOROBENZENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| CHLORODIBROMOMETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| CHLOROETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| CHLOROFORM | 2 J | 2 J | 2 J | 13 U | 1 J | 1 J | 2 J | 2 J |
| CHLOROMETHANE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| CIS-1,3-DICHLOROPROPENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| ET[illegible] BENZENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| M[illegible]LENE CHLORIDE | 13 U | 13 U | [illegible] | 13 U | 13 U | 13 U | 2 J | [illegible] |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1000001 | 2SD1010001 | 2SD1020001 | 2SD1030001 | 2SD1040001 | 2SD1050001 | 2SD1060001 | 2SD1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| TETRACHLOROETHENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| TOLUENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| TRANS-1,3-DICHLOROPROPENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| TRICHLOROETHENE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| VINYL CHLORIDE | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| XYLENES, TOTAL | 13 U | 13 U | 15 U | 13 U | 13 U | 13 U | 12 U | 14 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 87 UJ | 44 UJ | 41 UJ | 4.2 UJ | 22 UJ | 4.2 UJ | 42 UJ | 4.5 UJ |
| 4,4'-DDE | 87 UJ | 44 UJ | 41 UJ | 7.7 J | 2.4 R | 1.5 R | 42 UJ | 1.8 J |
| 4,4'-DDT | 59 R | 28 R | 41 UJ | 4.2 UJ | 22 UJ | 4.2 UJ | 42 UJ | 4.5 UJ |
| ALDRIN | 44 UJ | 22 UJ | 20 UJ | 2.1 UJ | 11 UJ | 2.1 UJ | 0.24 B | 2.2 UJ |
| ALPHA-BHC | 44 UJ | 22 UJ | 20 UJ | 2.1 UJ | 11 UJ | 2.1 UJ | 21 UJ | 2.2 UJ |
| ALPHA-CHLORDANE | 44 UJ | 3.3 J | 20 UJ | 2.2 R | 11 UJ | 2.1 UJ | 21 UJ | 1.1 J |
| AROCLOR-1016 | 870 UJ | 440 UJ | 410 UJ | 42 UJ | 220 UJ | 42 UJ | 420 UJ | 45 UJ |
| AROCLOR-1221 | 1700 UJ | 880 UJ | 810 UJ | 85 UJ | 440 UJ | 85 UJ | 830 UJ | 90 UJ |
| AROCLOR-1232 | 870 UJ | 440 UJ | 410 UJ | 42 UJ | 220 UJ | 42 UJ | 420 UJ | 45 UJ |
| AROCLOR-1242 | 870 UJ | 440 UJ | 410 UJ | 42 UJ | 220 UJ | 42 UJ | 420 UJ | 45 UJ |
| AROCLOR-1248 | 870 UJ | 440 UJ | 410 UJ | 42 UJ | 220 UJ | 42 UJ | 420 UJ | 45 UJ |
| AROCLOR-1254 | 870 UJ | 440 UJ | 410 UJ | 42 UJ | 220 UJ | 42 UJ | 420 UJ | 45 UJ |
| AROCLOR-1260 | 1200 J | 590 J | 9700 J | 1700 J | 950 J | 630 J | 420 J | 310 J |
| BETA-BHC | 44 UJ | 22 UJ | 20 UJ | 2.1 UJ | 11 UJ | 2.1 UJ | 21 UJ | 2.2 UJ |
| DELTA-BHC | 44 UJ | 22 UJ | 20 UJ | 0.074 B | 11 UJ | 2.1 UJ | 21 UJ | 0.037 B |
| DIELDRIN | 87 UJ | 4.9 J | 120 J | 18 R | 10 J | 7.7 J | 4.1 R | 4.8 J |
| ENDOSULFAN I | 44 UJ | 22 UJ | 20 UJ | 2.1 UJ | 11 UJ | 2.1 UJ | 21 UJ | 2.2 UJ |
| ENDOSULFAN II | 87 UJ | 44 UJ | 41 UJ | 4.2 UJ | 22 UJ | 4.2 UJ | 42 UJ | 4.5 UJ |
| ENDOSULFAN SULFATE | 87 UJ | 44 UJ | 100 R | 18 R | 7.8 R | 6.5 R | 42 UJ | 3.2 R |
| ENDRIN | 87 UJ | 44 UJ | 19 J | 0.59 R | 22 UJ | 0.72 J | 42 UJ | 0.29 R |
| ENDRIN ALDEHYDE | 87 UJ | 44 UJ | 41 R | 5.2 R | 4.2 R | 2.2 R | 42 UJ | 0.75 R |
| ENDRIN KETONE | 4.7 R | 44 UJ | 41 UJ | 4.2 UJ | 22 UJ | 0.074 R | 1.4 R | 4.5 UJ |
| GAMMA-BHC (LINDANE) | 44 UJ | 22 UJ | 20 UJ | 2.1 UJ | 11 UJ | 2.1 UJ | 21 UJ | 2.2 UJ |
| GAMMA-CHLORDANE | 20 R | 6.4 R | 43 R | 8.0 R | 3.4 R | 1.8 R | 7.4 R | 2.2 UJ |
| HEPTACHLOR | 1.2 R | 0.35 R | 20 UJ | 0.11 R | 11 UJ | 2.1 UJ | 21 UJ | 2.2 UJ |
| HEPTACHLOR EPOXIDE | 0.61 R | 22 UJ | 20 UJ | 2.1 UJ | 11 UJ | 2.1 UJ | 21 UJ | 2.2 UJ |
| METHOXYCHLOR | 440 UJ | 220 UJ | 200 UJ | 21 UJ | 110 UJ | 21 UJ | 210 UJ | 22 UJ |
| TOXAPHENE | 4400 UJ | 2200 UJ | 2000 UJ | 210 UJ | 1100 UJ | 210 UJ | 2100 UJ | 220 UJ |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 1,3-DINITROBENZENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1000001 | 2SD1010001 | 2SD1020001 | 2SD1030001 | 2SD1040001 | 2SD1050001 | 2SD1060001 | 2SD1070001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD100 | 2SW/SD101 | 2SW/SD102 | 2SW/SD103 | 2SW/SD104 | 2SW/SD105 | 2SW/SD106 | 2SW/SD107 |
| SAMPLE DATE: | 01/19/99 | 01/18/99 | 01/18/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4 DINITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2,4,6-TRINITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2,6 DINITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2-NITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 3-NITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 4-NITROTOLUENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| HMX | 0.50 UJ | 0.50 U | 0.50 U | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ |
| NITROBENZENE | 0.25 UJ | 0.25 U | 0.25 U | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| RDX | 0.50 UJ | 0.50 U | 0.50 U | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ |
| TETRYL | 0.65 UJ | 0.65 U | 0.65 U | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | | | | |
| TOTAL ORGANIC CARBON | 11000 | 8000 | 13000 | 5800 | 3500 | 1300 | 2000 | 1700 |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1080001 | 2SD1090001 | 2SD1090001-D | 2SD1100001 | 2SD1110001 | 2SD1120001 | 2SD1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | OUTFALL(2SD112) | OUTFALL(2SD113) |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SD1090001-D | 2SD1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 6830 | 10100 | 6370 | 6650 | 4020 | 1520 | 7270 |
| ANTIMONY | 0.78 UL | 0.77 UL | 1.5 L | 0.74 UL | 0.69 UL | 0.67 UL | 0.68 UL |
| ARSENIC | 0.72 U | 2.1 | 1.4 | 1.5 | 0.92 | 0.62 U | 0.91 |
| BARIUM | 39.7 | 53.2 | 42.0 | 44.5 | 26.6 | 18.4 | 42.8 |
| BERYLLIUM | 0.11 B | 0.52 B | 0.21 B | 0.30 B | 0.35 B | 0.12 B | 0.24 B |
| CADMIUM | 0.06 U | 0.05 U | 0.05 U | 0.21 B | 0.14 B | 0.21 B | 0.40 |
| CALCIUM | 478 | 436 | 425 | 450 | 961 | 2270 | 530 |
| CHROMIUM | 9.6 J | 15.8 J | 11.9 J | 12.1 J | 10.1 J | 12.7 J | 14.0 J |
| COBALT | 12.8 | 14.4 | 9.0 | 12.2 | 7.5 | 7.5 | 8.1 |
| COPPER | 23.0 | 35.6 | 23.7 | 28.0 | 20.7 | 26.0 | 36.8 |
| CYANIDE | 3.5 U | 3.4 U | 3.4 U | 3.3 U | 3.1 U | 3.0 U | 3.0 U |
| IRON | 13500 | 23200 | 14600 | 14200 | 12000 | 5490 | 16800 |
| LEAD | 10.5 L | 17.1 L | 22.5 L | 13.0 L | 7.6 L | 13.0 L | 10.2 L |
| MAGNESIUM | 1940 | 2040 | 1490 | 1810 | 1350 | 4500 | 2010 |
| MANGANESE | 890 J | 1250 J | 539 J | 938 J | 826 J | 458 J | 212 J |
| MERCURY | 0.07 | 0.07 U | 5.4 | 0.07 | 0.06 U | 0.12 | 0.09 |
| NICKEL | 20.5 | 25.9 | 16.8 | 33.4 | 16.0 | 45.1 | 18.0 |
| POTASSIUM | 1710 | 1680 | 1440 | 1420 | 950 | 203 | 1800 |
| SELENIUM | 0.78 UL | 1.0 L | 0.80 L | 0.74 UL | 0.69 UL | 0.67 UL | 0.68 UL |
| SILVER | 0.53 U | 0.52 U | 0.52 U | 0.50 U | 0.47 U | 0.45 U | 0.46 U |
| SODIUM | 148 B | 91.8 B | 107 B | 135 B | 116 B | 202 B | 95.0 B |
| THALLIUM | 1.6 UL | 1.5 UL | 1.5 UL | 1.5 UL | 1.4 UL | 1.3 UL | 1.4 UL |
| VANADIUM | 11.9 | 16.7 | 13.5 | 12.2 | 9.8 | 6.6 | 14.9 |
| ZINC | 61.6 J | 75.7 J | 60.9 J | 70.5 J | 51.5 J | 38.6 J | 63.3 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 1,2-DICHLOROBENZENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 1,3-DICHLOROBENZENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 1,4-DICHLOROBENZENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 2,4,5-TRICHLOROPHENOL | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UR |
| 2,4,6-TRICHLOROPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 2,4-DICHLOROPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 2,4-DIMETHYLPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 2,4-DINITROPHENOL | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UR |
| 2,4-DINITROTOLUENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 2,6-DINITROTOLUENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 2-CHLORONAPHTHALENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1080001 | 2SD1090001 | 2SD1090001-D | 2SD1100001 | 2SD1110001 | 2SD1120001 | 2SD1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | OUTFALL(2SD112) | OUTFALL(2SD113) |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SD1090001-D | 2SD1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 2-METHYLNAPHTHALENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 2-METHYLPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 2-NITROANILINE | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UJ |
| 2-NITROPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 3,3'-DICHLOROBENZIDINE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 3-NITROANILINE | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UJ |
| 4,6-DINITRO-2-METHYLPHENOL | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UR |
| 4-BROMOPHENYL PHENYL ETHER | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 4-CHLORO-3-METHYLPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 4-CHLOROANILINE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 4-CHLOROPHENYL PHENYL ETHER | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| 4-METHYLPHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| 4-NITROANILINE | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UJ |
| 4-NITROPHENOL | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UR |
| ACENAPHTHENE | 460 UJ | 450 UJ | 250 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| ACENAPHTHYLENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| ANTHRACENE | 460 UJ | 71 J | 610 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| BENZO(A)ANTHRACENE | 460 UJ | 230 J | 1400 J | 130 J | 410 UJ | 390 UJ | 76 J |
| BENZO(A)PYRENE | 460 UJ | 130 J | 1100 J | 110 J | 410 UJ | 42 J | 74 J |
| BENZO(B)FLUORANTHENE | 61 J | 200 J | 1400 J | 160 J | 410 UJ | 63 J | 140 J |
| BENZO(G,H,I)PERYLENE | 460 UJ | 450 UJ | 370 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| BENZO(K)FLUORANTHENE | 460 UJ | 78 J | 580 J | 48 J | 410 UJ | 390 UJ | 64 J |
| BIS(2-CHLOROETHOXY)METHANE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| BIS(2-CHLOROETHYL)ETHER | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| BIS(2-ETHYLHEXYL)PHTHALATE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| BUTYLBENZYL PHTHALATE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| CARBAZOLE | 460 UJ | 450 UJ | 440 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| CHRYSENE | 460 UJ | 240 J | 1400 J | 140 J | 410 UJ | 390 UJ | 97 J |
| DI-N-BUTYL PHTHALATE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| DI-N-OCTYL PHTHALATE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| DIBENZO(A,H)ANTHRACENE | 460 UJ | 450 UJ | 130 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| DIBENZOFURAN | 460 UJ | 450 UJ | 200 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| DIETHYL PHTHALATE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| DIMETHYL PHTHALATE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| FLUORANTHENE | 110 J | 550 J | 3800 J | 330 J | 410 UJ | 84 J | 190 J |
| FLUORENE | 460 UJ | 46 J | 430 J | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| HEXACHLOROBENZENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| HEX[illegible]OROBUTADIENE | 460 UJ | 450 UJ | [illegible]UJ | 430 UJ | 410 UJ | 390 UJ | 40[illegible] |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1080001 | 2SD1090001 | 2SD1090001-D | 2SD1100001 | 2SD1110001 | 2SD1120001 | 2SD1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | OUTFALL(2SD112) | OUTFALL(2SD113) |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SD1090001-D | 2SD1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| HEXACHLOROETHANE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| INDENO(1,2,3-CD)PYRENE | 460 UJ | 50 J | 560 J | 430 UJ | 410 UJ | 390 UJ | 56 J |
| ISOPHORONE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| N-NITROSO-DI-N-PROPYLAMINE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| N-NITROSODIPHENYLAMINE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| NAPHTHALENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| NITROBENZENE | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UJ |
| PENTACHLOROPHENOL | 1100 UJ | 1100 UJ | 1400 UJ | 1000 UJ | 990 UJ | 950 UJ | 970 UR |
| PHENANTHRENE | 62 J | 480 J | 3700 J | 270 J | 410 UJ | 42 J | 100 J |
| PHENOL | 460 UJ | 450 UJ | 600 UJ | 430 UJ | 410 UJ | 390 UJ | 400 UR |
| PYRENE | 67 J | 420 J | 2900 J | 250 J | 410 UJ | 60 J | 130 J |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,1-DICHLOROETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,1-DICHLOROETHENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,2-DICHLOROETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 1,2-DICHLOROPROPANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 2-BUTANONE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 2-HEXANONE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| 4-METHYL-2-PENTANONE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| ACETONE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| BENZENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| BROMODICHLOROMETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| BROMOFORM | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| BROMOMETHANE | 14 U | 2 B | 14 U | 13 U | 12 U | 1 B | 12 U |
| CARBON DISULFIDE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| CARBON TETRACHLORIDE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| CHLOROBENZENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| CHLORODIBROMOMETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| CHLOROETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| CHLOROFORM | 1 J | 14 U | 2 J | 2 J | 2 J | 12 U | 12 U |
| CHLOROMETHANE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| ETHYLBENZENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| METHYLENE CHLORIDE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1080001 | 2SD1090001 | 2SD1090001-D | 2SD1100001 | 2SD1110001 | 2SD1120001 | 2SD1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | OUTFALL(2SD112) | OUTFALL(2SD113) |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SD1090001-D | 2SD1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| TETRACHLOROETHENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| TOLUENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| TRICHLOROETHENE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| VINYL CHLORIDE | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| XYLENES, TOTAL | 14 U | 14 U | 14 U | 13 U | 12 U | 12 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | 23 UJ | 23 UJ | 46 UJ | 22 UJ | 4.1 UJ | 0.65 B | 4.1 UJ |
| 4,4'-DDE | 1.6 B | 5.5 R | 18 R | 3.8 R | 0.67 J | 7.9 UJ | 4.1 UJ |
| 4,4'-DDT | 23 UJ | 23 UJ | 46 UJ | 22 UJ | 18 J | 7.9 UJ | 1.6 R |
| ALDRIN | 12 UJ | 0.16 B | 23 UJ | 11 UJ | 0.21 B | 3.9 UJ | 2.0 UJ |
| ALPHA-BHC | 12 UJ | 0.17 B | 23 UJ | 11 UJ | 0.17 J | 3.9 UJ | 2.0 UJ |
| ALPHA-CHLORDANE | 3.0 J | 11 UJ | 23 UJ | 2.9 J | 0.42 J | 3.9 UJ | 2.5 J |
| AROCLOR-1016 | 230 UJ | 230 UJ | 460 UJ | 220 UJ | 41 UJ | 79 UJ | 41 UJ |
| AROCLOR-1221 | 460 UJ | 460 UJ | 910 UJ | 440 UJ | 82 UJ | 160 UJ | 81 UJ |
| AROCLOR-1232 | 230 UJ | 230 UJ | 460 UJ | 220 UJ | 41 UJ | 79 UJ | 41 UJ |
| AROCLOR-1242 | 230 UJ | 230 UJ | 460 UJ | 220 UJ | 41 UJ | 79 UJ | 41 UJ |
| AROCLOR-1248 | 230 UJ | 230 UJ | 460 UJ | 220 UJ | 41 UJ | 79 UJ | 41 UJ |
| AROCLOR-1254 | 230 UJ | 230 UJ | 460 UJ | 220 UJ | 41 UJ | 79 UJ | 41 UJ |
| AROCLOR-1260 | 420 J | 1600 J | 4000 J | 850 J | 150 J | 110 J | 720 J |
| BETA-BHC | 12 UJ | 11 UJ | 23 UJ | 11 UJ | 2.0 UJ | 3.9 UJ | 2.0 UJ |
| DELTA-BHC | 12 UJ | 0.096 B | 23 UJ | 11 UJ | 0.11 R | 3.9 UJ | 2.0 UJ |
| DIELDRIN | 6.0 J | 19 J | 55 J | 12 J | 2.1 J | 7.9 UJ | 8.5 J |
| ENDOSULFAN I | 12 UJ | 11 UJ | 5.5 R | 11 UJ | 2.0 UJ | 3.9 UJ | 2.0 UJ |
| ENDOSULFAN II | 23 UJ | 23 UJ | 46 UJ | 22 UJ | 4.1 UJ | 7.9 UJ | 4.1 UJ |
| ENDOSULFAN SULFATE | 3.1 R | 14 R | 40 R | 7.8 R | 1.5 R | 7.9 UJ | 6.8 R |
| ENDRIN | 23 UJ | 3.1 R | 10 R | 1.8 R | 0.27 R | 7.9 UJ | 0.91 J |
| ENDRIN ALDEHYDE | 23 UJ | 5.8 R | 15 R | 22 UJ | 4.1 UJ | 7.9 UJ | 3.0 R |
| ENDRIN KETONE | 23 UJ | 23 UJ | 46 UJ | 22 UJ | 4.1 UJ | 7.9 UJ | 4.1 UJ |
| GAMMA-BHC (LINDANE) | 12 UJ | 0.11 R | 23 UJ | 11 UJ | 2.0 UJ | 3.9 UJ | 2.0 UJ |
| GAMMA-CHLORDANE | 3.5 R | 5.7 R | 22 R | 4.8 R | 0.85 R | 2.3 R | 3.6 R |
| HEPTACHLOR | 12 UJ | 11 UJ | 23 UJ | 11 UJ | 0.092 R | 3.9 UJ | 0.33 R |
| HEPTACHLOR EPOXIDE | 12 UJ | 11 UJ | 23 UJ | 11 UJ | 2.0 UJ | 3.9 UJ | 2.0 UJ |
| METHOXYCHLOR | 120 UJ | 110 UJ | 6.6 R | 110 UJ | 20 UJ | 39 UJ | 20 UJ |
| TOXAPHENE | 1200 UJ | 1100 UJ | 2300 UJ | 1100 UJ | 200 UJ | 390 UJ | 200 UJ |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 1,3-[illegible]ROBENZENE | 0.25 UJ | 0.25 UJ | [illegible] UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.2[illegible] |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 2SD1080001 | 2SD1090001 | 2SD1090001-D | 2SD1100001 | 2SD1110001 | 2SD1120001 | 2SD1130001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 2SW/SD108 | 2SW/SD109 | 2SW/SD109 | 2SW/SD110 | 2SW/SD111 | OUTFALL(2SD112) | OUTFALL(2SD113) |
| SAMPLE DATE: | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 | 01/19/99 |
| ASSOCIATED DUPLICATE: | | 2SD1090001-D | 2SD1090001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4 DINITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2,4,6-TRINITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2,6 DINITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 2-NITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 3-NITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| 4-NITROTOLUENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| HMX | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ |
| NITROBENZENE | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| RDX | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ | 0.50 UJ |
| TETRYL | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ | 0.65 UJ |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | | | |
| TOTAL ORGANIC CARBON | 1500 | 2000 | 1200 | 2600 | 230 | 980 | 1300 |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-02 | 02-SD-05 | 02-SD-06 | 02-SD-07 | 02-SD-10 | 02-SD-11 | 02-SD-15 | 02-SD-19 | 02-SD-20 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 02SD02 | 02SD05 | 02SD06 | 02SD07 | 02SD10 | 02SD11 | 02SD15 | 02SD19 | 02SD20 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | | |
| ALUMINUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ANTIMONY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ARSENIC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BARIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BERYLLIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CADMIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CALCIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHROMIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| COBALT | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| COPPER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CYANIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| IRON | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| LEAD | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MAGNESIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MANGANESE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MERCURY | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NICKEL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| POTASSIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SELENIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SILVER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SODIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| THALLIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| VANADIUM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ZINC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,3-DICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,4-DICHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,5-TRICHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,6-TRICHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DICHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DIMETHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DINITROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-CHLORONAPHTHALENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-02 | 02-SD-05 | 02-SD-06 | 02-SD-07 | 02-SD-10 | 02-SD-11 | 02-SD-15 | 02-SD-19 | 02-SD-20 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 02SD02 | 02SD05 | 02SD06 | 02SD07 | 02SD10 | 02SD11 | 02SD15 | 02SD19 | 02SD20 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-METHYLNAPHTHALENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3,3'-DICHLOROBENZIDINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3-NITROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,6-DINITRO-2-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-BROMOPHENYL PHENYL ETHER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-CHLORO-3-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-CHLOROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-CHLOROPHENYL PHENYL ETHER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-METHYLPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROANILINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACENAPHTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACENAPHTHYLENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ANTHRACENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(A)ANTHRACENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(A)PYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(B)FLUORANTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(G,H,I)PERYLENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZO(K)FLUORANTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BIS(2-CHLOROETHOXY)METHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BIS(2-CHLOROETHYL)ETHER | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BIS(2-ETHYLHEXYL)PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BUTYLBENZYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBAZOLE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHRYSENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DI-N-BUTYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DI-N-OCTYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIBENZO(A,H)ANTHRACENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIBENZOFURAN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIETHYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIMETHYL PHTHALATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FLUORANTHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FLUORENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXACHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXACHLOROBUTADIENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-02 | 02-SD-05 | 02-SD-06 | 02-SD-07 | 02-SD-10 | 02-SD-11 | 02-SD-15 | 02-SD-19 | 02-SD-20 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 02SD02 | 02SD05 | 02SD06 | 02SD07 | 02SD10 | 02SD11 | 02SD15 | 02SD19 | 02SD20 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXACHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| INDENO(1,2,3-CD)PYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ISOPHORONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N-NITROSO-DI-N-PROPYLAMINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N-NITROSODIPHENYLAMINE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NAPHTHALENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PENTACHLOROPHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PHENANTHRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PHENOL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **VOLATILES (ug/kg)** | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1,2,2-TETRACHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1,2-TRICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1-DICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1-DICHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-BUTANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-HEXANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-METHYL-2-PENTANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMODICHLOROMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMOFORM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBON DISULFIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBON TETRACHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROFORM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CIS-1,3-DICHLOROPROPENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ETHYLBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| METHYL CHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-02 | 02-SD-05 | 02-SD-06 | 02-SD-07 | 02-SD-10 | 02-SD-11 | 02-SD-15 | 02-SD-19 | 02-SD-20 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 02SD02 | 02SD05 | 02SD06 | 02SD07 | 02SD10 | 02SD11 | 02SD15 | 02SD19 | 02SD20 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TETRACHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TRANS-1,3-DICHLOROPROPENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TRICHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| VINYL CHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| XYLENES, TOTAL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | | |
| 4,4'-DDD | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDT | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1016 | 38 U | 37 U | 42 U | 40 U | N/A | 20196 U | N/A | 23404 U | N/A |
| AROCLOR-1221 | 77 U | 76 U | 86 U | 81 U | N/A | 41004 U | N/A | 47518 U | N/A |
| AROCLOR-1232 | 38 U | 37 U | 42 U | 40 U | N/A | 20196 U | N/A | 23404 U | N/A |
| AROCLOR-1242 | 38 U | 37 U | 42 U | 40 U | N/A | 20196 U | N/A | 23404 U | N/A |
| AROCLOR-1248 | 38 U | 37 U | 42 U | 40 U | N/A | 20196 U | N/A | 23404 U | N/A |
| AROCLOR-1254 | 38 U | 37 U | 42 U | 40 U | N/A | 20196 U | N/A | 23404 U | N/A |
| AROCLOR-1260 | 893 | 740 | 380 | 622 | N/A | 143103 | N/A | 47118 | N/A |
| BETA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DELTA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIELDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN I | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN II | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN KETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR EPOXIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| METHOXYCHLOR | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TOXAPHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | | | | | | | |
| 1,3,5-TRINITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,3-DINITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-02 | 02-SD-05 | 02-SD-06 | 02-SD-07 | 02-SD-10 | 02-SD-11 | 02-SD-15 | 02-SD-19 | 02-SD-20 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 02SD02 | 02SD05 | 02SD06 | 02SD07 | 02SD10 | 02SD11 | 02SD15 | 02SD19 | 02SD20 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 | 03/29/95 | 01/01/95 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4 DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,6 DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HMX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| RDX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TETRYL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | | | | | |
| TOTAL ORGANIC CARBON | N/A | 2750 | N/A | N/A | 1660 K | N/A | 10300 K | N/A | 20100 |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-21 | 02-SD-23 | 02-SD-28 |
|---|---|---|---|
| LOCATION: | 02SD21 | 02SD23 | 02SD28 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | |
| ALUMINUM | N/A | N/A | N/A |
| ANTIMONY | N/A | N/A | N/A |
| ARSENIC | N/A | N/A | N/A |
| BARIUM | N/A | N/A | N/A |
| BERYLLIUM | N/A | N/A | N/A |
| CADMIUM | N/A | N/A | N/A |
| CALCIUM | N/A | N/A | N/A |
| CHROMIUM | N/A | N/A | N/A |
| COBALT | N/A | N/A | N/A |
| COPPER | N/A | N/A | N/A |
| CYANIDE | N/A | N/A | N/A |
| IRON | N/A | N/A | N/A |
| LEAD | N/A | N/A | N/A |
| MAGNESIUM | N/A | N/A | N/A |
| MANGANESE | N/A | N/A | N/A |
| MERCURY | N/A | N/A | N/A |
| NICKEL | N/A | N/A | N/A |
| POTASSIUM | N/A | N/A | N/A |
| SELENIUM | N/A | N/A | N/A |
| SILVER | N/A | N/A | N/A |
| SODIUM | N/A | N/A | N/A |
| THALLIUM | N/A | N/A | N/A |
| VANADIUM | N/A | N/A | N/A |
| ZINC | N/A | N/A | N/A |
| **SEMIVOLATILES (ug/kg)** | | | |
| 1,2,4-TRICHLOROBENZENE | N/A | N/A | N/A |
| 1,2-DICHLOROBENZENE | N/A | N/A | N/A |
| 1,3-DICHLOROBENZENE | N/A | N/A | N/A |
| 1,4-DICHLOROBENZENE | N/A | N/A | N/A |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | N/A | N/A | N/A |
| 2,4,5-TRICHLOROPHENOL | N/A | N/A | N/A |
| 2,4,6-TRICHLOROPHENOL | N/A | N/A | N/A |
| 2,4-DICHLOROPHENOL | N/A | N/A | N/A |
| 2,4-DIMETHYLPHENOL | N/A | N/A | N/A |
| 2,4-DINITROPHENOL | N/A | N/A | N/A |
| 2,4-DINITROTOLUENE | N/A | N/A | N/A |
| 2,6-DINITROTOLUENE | N/A | N/A | N/A |
| 2-CHLORONAPHTHALENE | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:** | **02-SD-21** | **02-SD-23** | **02-SD-28** |
|---|---|---|---|
| **LOCATION:** | **02SD21** | **02SD23** | **02SD28** |
| **SAMPLE DATE:** | **03/29/95** | **03/29/95** | **03/29/95** |
| **ASSOCIATED DUPLICATE:** | | | |
| **VALIDATION STATUS:** | **VALIDATED** | **VALIDATED** | **VALIDATED** |
| 2-CHLOROPHENOL | N/A | N/A | N/A |
| 2-METHYLNAPHTHALENE | N/A | N/A | N/A |
| 2-METHYLPHENOL | N/A | N/A | N/A |
| 2-NITROANILINE | N/A | N/A | N/A |
| 2-NITROPHENOL | N/A | N/A | N/A |
| 3,3'-DICHLOROBENZIDINE | N/A | N/A | N/A |
| 3-NITROANILINE | N/A | N/A | N/A |
| 4,6-DINITRO-2-METHYLPHENOL | N/A | N/A | N/A |
| 4-BROMOPHENYL PHENYL ETHER | N/A | N/A | N/A |
| 4-CHLORO-3-METHYLPHENOL | N/A | N/A | N/A |
| 4-CHLOROANILINE | N/A | N/A | N/A |
| 4-CHLOROPHENYL PHENYL ETHER | N/A | N/A | N/A |
| 4-METHYLPHENOL | N/A | N/A | N/A |
| 4-NITROANILINE | N/A | N/A | N/A |
| 4-NITROPHENOL | N/A | N/A | N/A |
| ACENAPHTHENE | N/A | N/A | N/A |
| ACENAPHTHYLENE | N/A | N/A | N/A |
| ANTHRACENE | N/A | N/A | N/A |
| BENZO(A)ANTHRACENE | N/A | N/A | N/A |
| BENZO(A)PYRENE | N/A | N/A | N/A |
| BENZO(B)FLUORANTHENE | N/A | N/A | N/A |
| BENZO(G,H,I)PERYLENE | N/A | N/A | N/A |
| BENZO(K)FLUORANTHENE | N/A | N/A | N/A |
| BIS(2-CHLOROETHOXY)METHANE | N/A | N/A | N/A |
| BIS(2-CHLOROETHYL)ETHER | N/A | N/A | N/A |
| BIS(2-ETHYLHEXYL)PHTHALATE | N/A | N/A | N/A |
| BUTYLBENZYL PHTHALATE | N/A | N/A | N/A |
| CARBAZOLE | N/A | N/A | N/A |
| CHRYSENE | N/A | N/A | N/A |
| DI-N-BUTYL PHTHALATE | N/A | N/A | N/A |
| DI-N-OCTYL PHTHALATE | N/A | N/A | N/A |
| DIBENZO(A,H)ANTHRACENE | N/A | N/A | N/A |
| DIBENZOFURAN | N/A | N/A | N/A |
| DIETHYL PHTHALATE | N/A | N/A | N/A |
| DIMETHYL PHTHALATE | N/A | N/A | N/A |
| FLUORANTHENE | N/A | N/A | N/A |
| FLUORENE | N/A | N/A | N/A |
| HEXACHLOROBENZENE | N/A | N/A | N/A |
| HEXACHLOROBUTADIENE | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-21 | 02-SD-23 | 02-SD-28 |
|---|---|---|---|
| LOCATION: | 02SD21 | 02SD23 | 02SD28 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | N/A | N/A | N/A |
| HEXACHLOROETHANE | N/A | N/A | N/A |
| INDENO(1,2,3-CD)PYRENE | N/A | N/A | N/A |
| ISOPHORONE | N/A | N/A | N/A |
| N-NITROSO-DI-N-PROPYLAMINE | N/A | N/A | N/A |
| N-NITROSODIPHENYLAMINE | N/A | N/A | N/A |
| NAPHTHALENE | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A |
| PENTACHLOROPHENOL | N/A | N/A | N/A |
| PHENANTHRENE | N/A | N/A | N/A |
| PHENOL | N/A | N/A | N/A |
| PYRENE | N/A | N/A | N/A |
| **VOLATILES (ug/kg)** | | | |
| 1,1,1-TRICHLOROETHANE | N/A | N/A | N/A |
| 1,1,2,2-TETRACHLOROETHANE | N/A | N/A | N/A |
| 1,1,2-TRICHLOROETHANE | N/A | N/A | N/A |
| 1,1-DICHLOROETHANE | N/A | N/A | N/A |
| 1,1-DICHLOROETHENE | N/A | N/A | N/A |
| 1,2-DICHLOROETHANE | N/A | N/A | N/A |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | N/A | N/A | N/A |
| 2-BUTANONE | N/A | N/A | N/A |
| 2-HEXANONE | N/A | N/A | N/A |
| 4-METHYL-2-PENTANONE | N/A | N/A | N/A |
| ACETONE | N/A | N/A | N/A |
| BENZENE | N/A | N/A | N/A |
| BROMODICHLOROMETHANE | N/A | N/A | N/A |
| BROMOFORM | N/A | N/A | N/A |
| BROMOMETHANE | N/A | N/A | N/A |
| CARBON DISULFIDE | N/A | N/A | N/A |
| CARBON TETRACHLORIDE | N/A | N/A | N/A |
| CHLOROBENZENE | N/A | N/A | N/A |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A |
| CHLOROETHANE | N/A | N/A | N/A |
| CHLOROFORM | N/A | N/A | N/A |
| CHLOROMETHANE | N/A | N/A | N/A |
| CIS-1,3-DICHLOROPROPENE | N/A | N/A | N/A |
| ETHYLBENZENE | N/A | N/A | N/A |
| METHYLENE CHLORIDE | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 02-SD-21 | 02-SD-23 | 02-SD-28 |
|---|---|---|---|
| LOCATION: | 02SD21 | 02SD23 | 02SD28 |
| SAMPLE DATE: | 03/29/95 | 03/29/95 | 03/29/95 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | N/A | N/A | N/A |
| TETRACHLOROETHENE | N/A | N/A | N/A |
| TOLUENE | N/A | N/A | N/A |
| TRANS-1,3-DICHLOROPROPENE | N/A | N/A | N/A |
| TRICHLOROETHENE | N/A | N/A | N/A |
| VINYL CHLORIDE | N/A | N/A | N/A |
| XYLENES, TOTAL | N/A | N/A | N/A |
| **PESTICIDES/PCBs (ug/kg)** | | | |
| 4,4'-DDD | N/A | N/A | N/A |
| 4,4'-DDE | N/A | N/A | N/A |
| 4,4'-DDT | N/A | N/A | N/A |
| ALDRIN | N/A | N/A | N/A |
| ALPHA-BHC | N/A | N/A | N/A |
| ALPHA-CHLORDANE | N/A | N/A | N/A |
| AROCLOR-1016 | 492 U | 45 U | 1976 U |
| AROCLOR-1221 | 999 U | 91 U | 4012 U |
| AROCLOR-1232 | 492 U | 45 U | 1976 U |
| AROCLOR-1242 | 492 U | 45 U | 1976 U |
| AROCLOR-1248 | 492 U | 45 U | 1976 U |
| AROCLOR-1254 | 492 U | 45 U | 1976 U |
| AROCLOR-1260 | 477 J | 815 | 1844 J |
| BETA-BHC | N/A | N/A | N/A |
| DELTA-BHC | N/A | N/A | N/A |
| DIELDRIN | N/A | N/A | N/A |
| ENDOSULFAN I | N/A | N/A | N/A |
| ENDOSULFAN II | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | N/A | N/A | N/A |
| ENDRIN | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | N/A | N/A | N/A |
| ENDRIN KETONE | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | N/A | N/A | N/A |
| GAMMA-CHLORDANE | N/A | N/A | N/A |
| HEPTACHLOR | N/A | N/A | N/A |
| HEPTACHLOR EPOXIDE | N/A | N/A | N/A |
| METHOXYCHLOR | N/A | N/A | N/A |
| TOXAPHENE | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | |
| 1,3,5-TRINITROBENZENE | N/A | N/A | N/A |
| 1,3-DINITROBENZENE | N/A | N/A | N/A |

TABLE I-6

SITE 2
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **02-SD-21**<br>**02SD21**<br>**03/29/95**<br><br>**VALIDATED** | **02-SD-23**<br>**02SD23**<br>**03/29/95**<br><br>**VALIDATED** | **02-SD-28**<br>**02SD28**<br>**03/29/95**<br><br>**VALIDATED** |
|---|---|---|---|
| 2,4 DINITROTOLUENE | N/A | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | N/A | N/A | N/A |
| 2,6 DINITROTOLUENE | N/A | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | N/A | N/A | N/A |
| 2-NITROTOLUENE | N/A | N/A | N/A |
| 3-NITROTOLUENE | N/A | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | N/A | N/A | N/A |
| 4-NITROTOLUENE | N/A | N/A | N/A |
| HMX | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A |
| RDX | N/A | N/A | N/A |
| TETRYL | N/A | N/A | N/A |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | |
| TOTAL ORGANIC CARBON | N/A | N/A | N/A |

# APPENDIX J

# ANALYTICAL DATA

# SITE 3

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1020100 | 3SS1040100 | 3SS1050100 | 3SS1060100 | 3SS1070100 | 3SS1080100 | 3SS1090100 | 3SS1100100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 | 3SS108 | 3SS109 | 3SS110 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 7930 | 8950 | 6180 | 6900 | 11200 | 6820 | 4860 | 6250 |
| ANTIMONY | 0.67 UL | 0.67 UL | 0.66 UL | 0.70 UL | 0.67 UL | 0.66 UL | 0.63 UL | 0.760000 UL |
| ARSENIC | 3.2 K | 3.3 K | 2.5 K | 2.9 K | 2.9 K | 2.7 K | 2.0 K | 3.1 K |
| BARIUM | 43.0 | 60.1 | 40.6 | 40.0 | 54.7 | 41.5 | 43.1 | 49.9 |
| BERYLLIUM | 0.14 B | 0.14 B | 0.06 B | 0.16 B | 0.31 B | 0.11 B | 0.08 B | 0.14 B |
| CADMIUM | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| CALCIUM | 770 | 746 | 554 | 530 | 860 | 1260 | 1170 | 1010 |
| CHROMIUM | 15.9 | 13.9 | 11.1 | 13.8 | 16.0 | 13.6 | 8.4 | 12.2 |
| COBALT | 5.4 | 7.1 | 6.6 | 4.3 | 13.2 | 3.5 | 3.0 | 3.6 |
| COPPER | 13.1 J | 13.0 J | 13.6 J | 13.0 J | 28.4 J | 10.9 J | 10.1 J | 8.3 J |
| CYANIDE | 0.16 UL | 0.16 UL | 0.17 B | 0.17 UL | 0.16 UL | 0.16 UL | 0.15 UL | 0.18 UL |
| IRON | 11900 | 15500 | 12500 | 11200 | 22900 | 10100 | 7510 | 10300 |
| LEAD | 12.8 | 10.3 | 9.3 | 19.8 | 12.7 | 24.3 | 42.2 | 56.0 |
| MAGNESIUM | 1610 | 1800 | 1840 | 1010 | 2620 | 918 | 755 | 740 |
| MANGANESE | 210 | 374 | 298 | 154 | 644 | 124 | 147 | 229 |
| MERCURY | 0.12 B | 0.08 B | 0.07 B | 0.09 B | 0.06 U | 0.12 B | 0.14 | 0.15 B |
| NICKEL | 15.1 | 15.4 | 13.6 | 8.7 | 18.0 | 13.4 | 8.5 B | 8.8 |
| POTASSIUM | 813 J | 844 J | 1030 J | 557 J | 1510 J | 345 J | 414 J | 299 J |
| SELENIUM | 0.67 UJ | 1.3 J | 1.1 J | 0.73 J | 1.3 J | 0.73 J | 1.1 J | 0.760000 UJ |
| SILVER | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.17 U | 0.17 U | 0.16 U | 0.19 U |
| SODIUM | 36.0 | 19.7 U | 35.6 | 20.8 U | 38.6 | 21.9 | 39.1 | 31.5 |
| THALLIUM | 1.3 U | 1.3 U | 1.3 U | 1.4 U | 1.3 U | 1.3 U | 1.3 U | 1.5 U |
| VANADIUM | 20.2 | 19.4 | 13.6 | 20.1 | 21.1 | 19.9 | 14.7 | 19.6 |
| ZINC | 32.5 J | 39.5 J | 32.9 J | 29.5 J | 54.4 J | 33.0 J | 33.9 J | 22.4 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 1,2-DICHLOROBENZENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 1,3-DICHLOROBENZENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 1,4-DICHLOROBENZENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2,4,5-TRICHLOROPHENOL | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| 2,4,6-TRICHLOROPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2,4-DICHLOROPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2,4-DIMETHYLPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2,4-DINITROPHENOL | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| 2,4-DINITROTOLUENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2,6-DINITROTOLUENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1020100 | 3SS1040100 | 3SS1050100 | 3SS1060100 | 3SS1070100 | 3SS1080100 | 3SS1090100 | 3SS1100100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 | 3SS108 | 3SS109 | 3SS110 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2-CHLOROPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2-METHYLNAPHTHALENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2-METHYLPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 2-NITROANILINE | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| 2-NITROPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 3,3'-DICHLOROBENZIDINE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 3-NITROANILINE | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| 4,6-DINITRO-2-METHYLPHENOL | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| 4-BROMOPHENYL PHENYL ETHER | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 4-CHLORO-3-METHYLPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 4-CHLOROANILINE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 4-CHLOROPHENYL PHENYL ETHER | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 4-METHYLPHENOL | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| 4-NITROANILINE | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| 4-NITROPHENOL | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| ACENAPHTHENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| ACENAPHTHYLENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| ANTHRACENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BENZO(A)ANTHRACENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BENZO(A)PYRENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BENZO(B)FLUORANTHENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BENZO(G,H,I)PERYLENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BENZO(K)FLUORANTHENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BIS(2-CHLOROETHOXY)METHANE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BIS(2-CHLOROETHYL)ETHER | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BIS(2-ETHYLHEXYL)PHTHALATE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| BUTYLBENZYL PHTHALATE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| CARBAZOLE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| CHRYSENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| DI-N-BUTYL PHTHALATE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| DI-N-OCTYL PHTHALATE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| DIBENZO(A,H)ANTHRACENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| DIBENZOFURAN | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| DIETHYL PHTHALATE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| DIMETHYL PHTHALATE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| FLUORANTHENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| FLUORENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1020100 | 3SS1040100 | 3SS1050100 | 3SS1060100 | 3SS1070100 | 3SS1080100 | 3SS1090100 | 3SS1100100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 | 3SS108 | 3SS109 | 3SS110 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| HEXACHLOROBUTADIENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| HEXACHLOROCYCLOPENTADIENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| HEXACHLOROETHANE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| INDENO(1,2,3-CD)PYRENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| ISOPHORONE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| N-NITROSO-DI-N-PROPYLAMINE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| N-NITROSODIPHENYLAMINE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| NAPHTHALENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| NITROBENZENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| PENTACHLOROPHENOL | 960 U | 950 U | 950 U | 1000 U | 950 U | 950 U | 900 U | 1100 UR |
| PHENANTHRENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| PHENOL | 400 U | 390 U | 390 U | 46 J | 390 U | 390 U | 370 U | 450 UR |
| PYRENE | 400 U | 390 U | 390 U | 420 U | 390 U | 390 U | 370 U | 450 UR |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,1-DICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,1-DICHLOROETHENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,2-DICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 1,2-DICHLOROPROPANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 2-BUTANONE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 2-HEXANONE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| 4-METHYL-2-PENTANONE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| ACETONE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| BENZENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| BROMODICHLOROMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| BROMOFORM | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| BROMOMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CARBON DISULFIDE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CARBON TETRACHLORIDE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CHLOROBENZENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CHLORODIBROMOMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CHLOROFORM | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| CHLOROMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1020100 | 3SS1040100 | 3SS1050100 | 3SS1060100 | 3SS1070100 | 3SS1080100 | 3SS1090100 | 3SS1100100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 | 3SS108 | 3SS109 | 3SS110 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| ETHYLBENZENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| METHYLENE CHLORIDE | 3 B | 2 B | 2 B | 12 U | 2 B | 12 U | 11 U | 14 U |
| STYRENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| TETRACHLOROETHENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| TOLUENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| TRICHLOROETHENE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| VINYL CHLORIDE | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| XYLENES, TOTAL | 12 U | 12 U | 12 U | 12 U | 12 U | 12 U | 11 U | 14 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 3.9 U | 3.7 U | 4.5 U |
| 4,4'-DDE | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 3.9 U | 3.7 U | 4.5 U |
| 4,4'-DDT | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 3.9 U | 3.7 U | 4.5 U |
| ALDRIN | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| ALPHA-BHC | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| ALPHA-CHLORDANE | 7.2 J | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 3.1 J | 6.4 J | 5.9 J |
| AROCLOR-1016 | 40 U | 39 U | 39 U | 41 U | 39 U | 39 U | 37 U | 45 U |
| AROCLOR-1221 | 80 U | 79 U | 79 U | 83 U | 80 U | 80 U | 75 U | 92 U |
| AROCLOR-1232 | 40 U | 39 U | 39 U | 41 U | 39 U | 39 U | 37 U | 45 U |
| AROCLOR-1242 | 40 U | 39 U | 39 U | 41 U | 39 U | 39 U | 37 U | 45 U |
| AROCLOR-1248 | 40 U | 39 U | 39 U | 41 U | 39 U | 39 U | 37 U | 45 U |
| AROCLOR-1254 | 61 J | 39 U | 58 J | 41 U | 39 U | 39 U | 37 U | 45 U |
| AROCLOR-1260 | 50 J | 39 U | 39 U | 41 U | 39 U | 250 | 420 | 380 |
| BETA-BHC | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| DELTA-BHC | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| DIELDRIN | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 3.9 U | 2.0 R | 4.5 U |
| ENDOSULFAN I | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| ENDOSULFAN II | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 6.5 R | 13 R | 10 R |
| ENDOSULFAN SULFATE | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 3.9 U | 3.7 U | 4.5 U |
| ENDRIN | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 2.3 R | 3.7 U | 4.5 U |
| ENDRIN ALDEHYDE | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 9.3 | 14 | 13 J |
| ENDRIN KETONE | 4.0 U | 3.9 U | 3.9 U | 4.1 U | 3.9 U | 3.9 U | 3.7 U | 4.5 U |
| GAMMA-BHC (LINDANE) | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| GAMMA-CHLORDANE | 5.7 J | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| HEPTACHLOR | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| HEPTACHLOR EPOXIDE | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 1.9 U | 2.3 U |
| METHOXYCHLOR | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 19 U | 23 U |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1020100 | 3SS1040100 | 3SS1050100 | 3SS1060100 | 3SS1070100 | 3SS1080100 | 3SS1090100 | 3SS1100100 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 | 3SS108 | 3SS109 | 3SS110 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 200 U | 200 U | 200 U | 210 U | 200 U | 200 U | 190 U | 230 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | 50 U | 50 U | N/A | N/A | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | 100 | 77 | N/A | N/A | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | 47 | 57 | N/A | N/A | N/A | N/A | N/A | N/A |
| FERROUS IRON mg/kg | 6 U | 6 U | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | 1.2 U | 1.2 U | N/A | N/A | N/A | N/A | N/A | N/A |
| PH | 3.8 | 2.3 | N/A | N/A | N/A | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON mg/kg | 9500 | 9600 | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1110100 | 3SS1120100 | 3SS1120100-D | 3SS1130100 | 3SS1140100 | 3SS1150100 |
|---|---|---|---|---|---|---|
| LOCATION: | 3SS111 | 3SS112 | 3SB112 | 3SS113 | 3SS114 | 3SS115 |
| SAMPLE DATE: | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 3SS1120100-D | 3SS1120100 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | |
| ALUMINUM | 4360 | 7630 | 5500 | 10500 | 13700 | 6750 |
| ANTIMONY | 1.3 L | 0.63 UL | 0.64 UL | 0.62 UL | 0.67 UL | 0.68 UL |
| ARSENIC | 2.1 K | 3.0 K | 2.6 K | 4.4 K | 4.1 K | 7.1 |
| BARIUM | 22.9 | 54.1 | 45.1 | 28.8 | 45.7 | 29.7 |
| BERYLLIUM | 0.08 B | 0.20 B | 0.14 B | 0.15 B | 0.16 B | 0.17 B |
| CADMIUM | 0.05 U | 0.05 U | 0.05 U | 0.04 U | 0.05 U | 0.30 |
| CALCIUM | 712 | 816 | 674 | 564 | 3700 | 1470 |
| CHROMIUM | 9.0 | 14.5 | 9.0 | 19.3 | 22.5 | 13.6 |
| COBALT | 2.6 | 3.5 | 3.1 | 2.3 | 4.9 | 2.6 |
| COPPER | 26.2 J | 31.1 J | 11.5 J | 12.2 J | 25.1 J | 19.3 J |
| CYANIDE | 0.30 B | 0.29 B | 0.15 UL | 0.15 UL | 0.16 UL | 0.16 UL |
| IRON | 7750 | 10100 | 7870 | 13800 | 18600 | 13000 |
| LEAD | 308 | 11.7 | 12.7 | 7.9 | 27.9 | 35.5 |
| MAGNESIUM | 552 | 812 | 703 | 534 | 1770 | 433 |
| MANGANESE | 108 | 154 | 128 | 34.8 | 176 | 193 |
| MERCURY | 0.14 B | 0.08 B | 0.13 B | 0.10 B | 0.19 B | 0.24 B |
| NICKEL | 6.2 | 8.5 | 7.2 | 4.6 | 10.1 | 5.8 |
| POTASSIUM | 360 J | 315 J | 296 J | 401 J | 636 J | 320 J |
| SELENIUM | 0.73 UJ | 1.2 J | 0.64 UJ | 0.62 UJ | 1.6 J | 1.0 J |
| SILVER | 0.18 U | 0.16 U | 0.16 U | 0.15 U | 0.69 | 0.23 |
| SODIUM | 21.4 U | 26.0 | 34.2 | 43.4 | 44.1 | 36.4 |
| THALLIUM | 1.5 U | 1.3 U | 1.3 U | 1.2 U | 1.3 U | 1.4 U |
| VANADIUM | 17.9 | 20.0 | 15.4 | 33.4 | 43.9 | 22.7 |
| ZINC | 25.6 J | 24.3 J | 23.9 J | 19.4 J | 42.7 J | 121 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 1,2-DICHLOROBENZENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 1,3-DICHLOROBENZENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 1,4-DICHLOROBENZENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2,4,5-TRICHLOROPHENOL | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| 2,4,6-TRICHLOROPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2,4-DICHLOROPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2,4-DIMETHYLPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2,4-DINITROPHENOL | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| 2,4-DINITROTOLUENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2,6-DINITROTOLUENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1110100 | 3SS1120100 | 3SS1120100-D | 3SS1130100 | 3SS1140100 | 3SS1150100 |
|---|---|---|---|---|---|---|
| LOCATION: | 3SS111 | 3SS112 | 3SB112 | 3SS113 | 3SS114 | 3SS115 |
| SAMPLE DATE: | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 3SS1120100-D | 3SS1120100 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2-CHLOROPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2-METHYLNAPHTHALENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2-METHYLPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 2-NITROANILINE | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| 2-NITROPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 3,3'-DICHLOROBENZIDINE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 3-NITROANILINE | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| 4,6-DINITRO-2-METHYLPHENOL | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| 4-BROMOPHENYL PHENYL ETHER | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 4-CHLORO-3-METHYLPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 4-CHLOROANILINE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 4-CHLOROPHENYL PHENYL ETHER | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 4-METHYLPHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| 4-NITROANILINE | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| 4-NITROPHENOL | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| ACENAPHTHENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| ACENAPHTHYLENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| ANTHRACENE | 67 J | 370 U | 380 U | 360 U | 390 U | 400 U |
| BENZO(A)ANTHRACENE | 310 J | 370 U | 380 U | 360 U | 68 J | 400 U |
| BENZO(A)PYRENE | 230 J | 370 U | 380 U | 360 U | 62 J | 55 J |
| BENZO(B)FLUORANTHENE | 300 J | 370 U | 380 U | 360 U | 72 J | 48 J |
| BENZO(G,H,I)PERYLENE | 85 J | 370 U | 380 U | 360 U | 390 U | 400 U |
| BENZO(K)FLUORANTHENE | 110 J | 370 U | 380 U | 360 U | 390 U | 49 J |
| BIS(2-CHLOROETHOXY)METHANE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| BIS(2-CHLOROETHYL)ETHER | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| BUTYLBENZYL PHTHALATE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| CARBAZOLE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| CHRYSENE | 310 J | 370 U | 380 U | 360 U | 67 J | 44 J |
| DI-N-BUTYL PHTHALATE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| DI-N-OCTYL PHTHALATE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| DIBENZO(A,H)ANTHRACENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| DIBENZOFURAN | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| DIETHYL PHTHALATE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| DIMETHYL PHTHALATE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| FLUORANTHENE | 730 | 370 U | 380 U | 360 U | 110 J | 400 U |
| FLUORENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1110100 | 3SS1120100 | 3SS1120100-D | 3SS1130100 | 3SS1140100 | 3SS1150100 |
|---|---|---|---|---|---|---|
| LOCATION: | 3SS111 | 3SS112 | 3SB112 | 3SS113 | 3SS114 | 3SS115 |
| SAMPLE DATE: | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 3SS1120100-D | 3SS1120100 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| HEXACHLOROBUTADIENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| HEXACHLOROCYCLOPENTADIENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| HEXACHLOROETHANE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| INDENO(1,2,3-CD)PYRENE | 110 J | 370 U | 380 U | 360 U | 390 U | 400 U |
| ISOPHORONE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| N-NITROSO-DI-N-PROPYLAMINE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| N-NITROSODIPHENYLAMINE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| NAPHTHALENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| NITROBENZENE | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| PENTACHLOROPHENOL | 1000 U | 900 U | 910 U | 880 U | 950 U | 970 U |
| PHENANTHRENE | 490 | 370 U | 380 U | 360 U | 110 J | 400 U |
| PHENOL | 430 U | 370 U | 380 U | 360 U | 390 U | 400 U |
| PYRENE | 600 | 370 U | 380 U | 360 U | 110 J | 59 J |
| **VOLATILES (ug/kg)** | | | | | | |
| 1,1,1-TRICHLOROETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,1-DICHLOROETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,1-DICHLOROETHENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,2-DICHLOROETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 1,2-DICHLOROPROPANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 2-BUTANONE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 2-HEXANONE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| 4-METHYL-2-PENTANONE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| ACETONE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| BENZENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| BROMODICHLOROMETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| BROMOFORM | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| BROMOMETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CARBON DISULFIDE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CARBON TETRACHLORIDE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CHLOROBENZENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CHLORODIBROMOMETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CHLOROETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CHLOROFORM | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| CHLOROMETHANE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1110100 | 3SS1120100 | 3SS1120100-D | 3SS1130100 | 3SS1140100 | 3SS1150100 |
|---|---|---|---|---|---|---|
| LOCATION: | 3SS111 | 3SS112 | 3SB112 | 3SS113 | 3SS114 | 3SS115 |
| SAMPLE DATE: | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 3SS1120100-D | 3SS1120100 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| ETHYLBENZENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| METHYLENE CHLORIDE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| STYRENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| TETRACHLOROETHENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| TOLUENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| TRICHLOROETHENE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| VINYL CHLORIDE | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| XYLENES, TOTAL | 13 U | 11 U | 11 U | 11 U | 12 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | |
| 4,4'-DDD | 4.3 U | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 3.9 R |
| 4,4'-DDE | 4.3 U | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 4.1 J |
| 4,4'-DDT | 2.7 R | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 11 J |
| ALDRIN | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| ALPHA-BHC | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| ALPHA-CHLORDANE | 12 J | 10 J | 8.9 R | 1.9 U | 2.5 J | 2.0 U |
| AROCLOR-1016 | 43 U | 37 U | 38 U | 36 U | 39 U | 39 U |
| AROCLOR-1221 | 87 U | 75 U | 76 U | 74 U | 80 U | 81 U |
| AROCLOR-1232 | 43 U | 37 U | 38 U | 36 U | 39 U | 39 U |
| AROCLOR-1242 | 43 U | 37 U | 38 U | 36 U | 39 U | 39 U |
| AROCLOR-1248 | 43 U | 37 U | 38 U | 36 U | 39 U | 39 U |
| AROCLOR-1254 | 43 U | 37 U | 38 U | 36 U | 39 U | 39 U |
| AROCLOR-1260 | 250 | 430 | 330 | 36 U | 52 | 69 J |
| BETA-BHC | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| DELTA-BHC | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| DIELDRIN | 4.3 U | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 3.9 U |
| ENDOSULFAN I | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| ENDOSULFAN II | 5.9 R | 13 R | 8.8 R | 3.6 U | 3.9 U | 2.5 R |
| ENDOSULFAN SULFATE | 4.3 U | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 2.8 J |
| ENDRIN | 4.3 U | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 7.0 R |
| ENDRIN ALDEHYDE | 8.4 | 16 | 11 | 3.6 U | 3.9 U | 3.9 R |
| ENDRIN KETONE | 4.3 U | 3.7 U | 3.8 U | 3.6 U | 3.9 U | 3.9 U |
| GAMMA-BHC (LINDANE) | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| GAMMA-CHLORDANE | 6.3 J | 1.9 U | 5.9 J | 1.9 U | 2.0 U | 2.0 U |
| HEPTACHLOR | 2.2 U | 1.9 U | 1.9 U | 1.9 U | 2.0 U | 2.0 U |
| HEPTACHLOR EPOXIDE | 2.2 U | 1.9 J | 1.8 J | 1.9 U | 2.0 U | 2.0 U |
| METHOXYCHLOR | 22 U | 19 U | 19 U | 19 U | 20 U | 13 R |

TABLE J-1

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 3SS1110100 | 3SS1120100 | 3SS1120100-D | 3SS1130100 | 3SS1140100 | 3SS1150100 |
|---|---|---|---|---|---|---|
| LOCATION: | 3SS111 | 3SS112 | 3SB112 | 3SS113 | 3SS114 | 3SS115 |
| SAMPLE DATE: | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 | 12/14/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 3SS1120100-D | 3SS1120100 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 220 U | 190 U | 190 U | 190 U | 200 U | 200 U |
| **EXPLOSIVES (mg/kg)** | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | 50 U | N/A | N/A | N/A | 50 U | N/A |
| BOD-5DAY (TOTAL) mg/kg | 26 UR | N/A | N/A | N/A | 24 UR | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | 77 | N/A | N/A | N/A | 52 | N/A |
| FERROUS IRON mg/kg | 26 U | N/A | N/A | N/A | 23.9 U | N/A |
| HEXAVALENT CHROMIUM mg/kg | 1.3 U | N/A | N/A | N/A | 1.2 U | N/A |
| PH | 5.6 | N/A | N/A | N/A | 5.5 | N/A |
| TOTAL ORGANIC CARBON mg/kg | 15000 | N/A | N/A | N/A | 5700 | N/A |

TABLE J-2

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 3SU1020200 | 3SU1040300 | 3SU1050300 | 3SU1060300 | 3SU1070300 |
|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 3.5 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | |
| ALUMINUM | 3160 | 7510 | 8370 | 5700 | 11700 |
| ANTIMONY | 0.66 UL | 0.65 UL | 0.76 UL | 0.63 UL | 0.66 UL |
| ARSENIC | 1.8 K | 1.7 K | 3.3 K | 0.58 U | 3.0 K |
| BARIUM | 12.0 | 51.2 | 82.9 | 47.5 | 36.2 |
| BERYLLIUM | 0.08 B | 0.14 B | 0.25 B | 0.16 B | 0.01 U |
| CADMIUM | 0.05 U | 0.05 U | 0.05 U | 0.04 U | 0.05 U |
| CALCIUM | 187 B | 185 B | 632 | 188 B | 284 |
| CHROMIUM | 9.0 | 10.8 | 12.2 | 6.1 | 18.1 |
| COBALT | 2.3 | 6.6 | 7.4 | 2.7 | 6.4 |
| COPPER | 7.8 J | 7.8 J | 10.4 J | 3.0 J | 17.8 J |
| CYANIDE | 0.16 UL | 0.29 B | 0.18 UL | 0.15 UL | 0.16 UL |
| IRON | 6640 | 10100 | 10800 | 4100 | 17600 |
| LEAD | 5.5 | 7.0 | 23.2 | 5.9 | 9.1 |
| MAGNESIUM | 274 | 1290 | 1790 | 673 | 2200 |
| MANGANESE | 31.2 | 243 | 412 | 260 | 106 |
| MERCURY | 0.06 B | 0.06 U | 0.15 B | 0.06 U | 0.07 B |
| NICKEL | 2.3 | 10.3 | 16.8 | 4.9 | 11.9 |
| POTASSIUM | 174 J | 531 J | 561 J | 304 J | 862 J |
| SELENIUM | 1.5 J | 0.65 UJ | 0.76 UJ | 0.63 UJ | 0.66 UJ |
| SILVER | 0.17 U | 0.16 U | 0.19 U | 0.16 U | 0.16 U |
| SODIUM | 19.5 U | 34.7 | 34.3 | 49.4 | 38.0 |
| THALLIUM | 1.3 U | 1.3 U | 1.5 U | 1.3 U | 1.3 U |
| VANADIUM | 17.4 | 14.4 | 18.3 | 7.6 | 26.9 |
| ZINC | 19.4 J | 28.7 J | 40.9 J | 21.5 J | 38.7 J |
| **SEMIVOLATILES (ug/kg)** | | | | | |
| 1,2,4-TRICHLOROBENZENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 1,2-DICHLOROBENZENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 1,3-DICHLOROBENZENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 1,4-DICHLOROBENZENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2,4,5-TRICHLOROPHENOL | 940 U | 920 U | 1100 U | 900 U | 940 U |
| 2,4,6-TRICHLOROPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2,4-DICHLOROPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2,4-DIMETHYLPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2,4-DINITROPHENOL | 940 U | 920 U | 1100 U | 900 U | 940 U |
| 2,4-DINITROTOLUENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2,6-DINITROTOLUENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2-CHLORONAPHTHALENE | 390 U | 380 U | 440 U | 370 U | 390 U |

TABLE J-2

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 3SU1020200 | 3SU1040300 | 3SU1050300 | 3SU1060300 | 3SU1070300 |
|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 3.5 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2-METHYLNAPHTHALENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2-METHYLPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 2-NITROANILINE | 940 U | 920 U | 1100 U | 900 U | 940 U |
| 2-NITROPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 3,3'-DICHLOROBENZIDINE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 3-NITROANILINE | 940 U | 920 U | 1100 U | 900 U | 940 U |
| 4,6-DINITRO-2-METHYLPHENOL | 940 U | 920 U | 1100 U | 900 U | 940 U |
| 4-BROMOPHENYL PHENYL ETHER | 390 U | 380 U | 440 U | 370 U | 390 U |
| 4-CHLORO-3-METHYLPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 4-CHLOROANILINE | 390 U | 380 U | 440 U | 370 U | 390 U |
| 4-CHLOROPHENYL PHENYL ETHER | 390 U | 380 U | 440 U | 370 U | 390 U |
| 4-METHYLPHENOL | 390 U | 380 U | 440 U | 370 U | 390 U |
| 4-NITROANILINE | 940 U | 920 U | 1100 U | 900 U | 940 U |
| 4-NITROPHENOL | 940 U | 920 U | 1100 U | 900 U | 940 U |
| ACENAPHTHENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| ACENAPHTHYLENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| ANTHRACENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BENZO(A)ANTHRACENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BENZO(A)PYRENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BENZO(B)FLUORANTHENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BENZO(G,H,I)PERYLENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BENZO(K)FLUORANTHENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BIS(2-CHLOROETHOXY)METHANE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BIS(2-CHLOROETHYL)ETHER | 390 U | 380 U | 440 U | 370 U | 390 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 390 U | 380 U | 440 U | 370 U | 390 U |
| BUTYLBENZYL PHTHALATE | 390 U | 380 U | 440 U | 370 U | 390 U |
| CARBAZOLE | 390 U | 380 U | 440 U | 370 U | 390 U |
| CHRYSENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| DI-N-BUTYL PHTHALATE | 390 U | 380 U | 440 U | 370 U | 390 U |
| DI-N-OCTYL PHTHALATE | 390 U | 380 U | 440 U | 370 U | 390 U |
| DIBENZO(A,H)ANTHRACENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| DIBENZOFURAN | 390 U | 380 U | 440 U | 370 U | 390 U |
| DIETHYL PHTHALATE | 390 U | 380 U | 440 U | 370 U | 390 U |
| DIMETHYL PHTHALATE | 390 U | 380 U | 440 U | 370 U | 390 U |
| FLUORANTHENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| FLUORENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| HEXACHLOROBENZENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| HEXACHLOROBUTADIENE | 390 U | 380 U | 440 U | 370 U | 390 U |

TABLE J-2

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 3SU1020200 | 3SU1040300 | 3SU1050300 | 3SU1060300 | 3SU1070300 |
|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 3.5 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| HEXACHLOROETHANE | 390 U | 380 U | 440 U | 370 U | 390 U |
| INDENO(1,2,3-CD)PYRENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| ISOPHORONE | 390 U | 380 U | 440 U | 370 U | 390 U |
| N-NITROSO-DI-N-PROPYLAMINE | 390 U | 380 U | 440 U | 370 U | 390 U |
| N-NITROSODIPHENYLAMINE | 390 U | 380 U | 440 U | 370 U | 390 U |
| NAPHTHALENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| NITROBENZENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| PENTACHLOROPHENOL | 940 U | 920 U | 1100 U | 900 U | 940 U |
| PHENANTHRENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| PHENOL | 390 U | 380 U | 89 J | 370 U | 390 U |
| PYRENE | 390 U | 380 U | 440 U | 370 U | 390 U |
| **VOLATILES (ug/kg)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 12 U | 14 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 2-BUTANONE | 12 U | 12 U | 10 J | 11 U | 12 U |
| 2-HEXANONE | 12 U | 12 U | 14 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 12 U | 12 U | 14 U | 11 U | 12 U |
| ACETONE | 12 U | 12 U | 55 J | 11 U | 12 U |
| BENZENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| BROMOFORM | 12 U | 12 U | 14 U | 11 U | 12 U |
| BROMOMETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CARBON DISULFIDE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CARBON TETRACHLORIDE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CHLOROBENZENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CHLORODIBROMOMETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CHLOROETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CHLOROFORM | 12 U | 12 U | 14 U | 11 U | 12 U |
| CHLOROMETHANE | 12 U | 12 U | 14 U | 11 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| ETHYLBENZENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| METHYLENE CHLORIDE | 2 B | 3 B | 12 B | 2 B | 3 B |

TABLE J-2

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 3SU1020200 | 3SU1040300 | 3SU1050300 | 3SU1060300 | 3SU1070300 |
|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 3.5 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| TETRACHLOROETHENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| TOLUENE | 12 U | 12 U | 1 J | 11 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| TRICHLOROETHENE | 12 U | 12 U | 14 U | 11 U | 12 U |
| VINYL CHLORIDE | 12 U | 12 U | 14 U | 11 U | 12 U |
| XYLENES, TOTAL | 12 U | 12 U | 14 U | 11 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | |
| 4,4'-DDD | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| 4,4'-DDE | 3.9 U | 3.8 U | 2.4 J | 3.7 U | 3.9 U |
| 4,4'-DDT | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| ALDRIN | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| ALPHA-BHC | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| ALPHA-CHLORDANE | 2.0 U | 2.0 U | 13.0 J | 1.9 U | 2.0 U |
| AROCLOR-1016 | 39 U | 38 U | 45 U | 37 U | 39 U |
| AROCLOR-1221 | 78 U | 78 U | 91 U | 75 U | 79 U |
| AROCLOR-1232 | 39 U | 38 U | 45 U | 37 U | 39 U |
| AROCLOR-1242 | 39 U | 38 U | 45 U | 37 U | 39 U |
| AROCLOR-1248 | 39 U | 38 U | 45 U | 37 U | 39 U |
| AROCLOR-1254 | 39 U | 38 U | 45 U | 37 U | 39 U |
| AROCLOR-1260 | 39 U | 38 U | 45 U | 37 U | 39 U |
| BETA-BHC | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| DELTA-BHC | 2.0 U | 2.0 U | 1.2 R | 1.9 U | 2.0 U |
| DIELDRIN | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| ENDOSULFAN I | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| ENDOSULFAN II | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| ENDOSULFAN SULFATE | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| ENDRIN | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| ENDRIN ALDEHYDE | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| ENDRIN KETONE | 3.9 U | 3.8 U | 4.5 U | 3.7 U | 3.9 U |
| GAMMA-BHC (LINDANE) | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| GAMMA-CHLORDANE | 2.0 U | 2.0 U | 15 | 1.9 U | 2.0 U |
| HEPTACHLOR | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| HEPTACHLOR EPOXIDE | 2.0 U | 2.0 U | 2.3 U | 1.9 U | 2.0 U |
| METHOXYCHLOR | 20 U | 20 U | 23 U | 19 U | 20 U |
| TOXAPHENE | 200 U | 200 U | 230 U | 190 U | 200 U |
| **EXPLOSIVES (mg/kg)** | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 25 U | 0.25 U | 0.25 U | 0.25 U |

TABLE J-2

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 3SU1020200 | 3SU1040300 | 3SU1050300 | 3SU1060300 | 3SU1070300 |
|---|---|---|---|---|---|
| LOCATION: | 3SB102/SGW102 | 3SB104/SGW104 | 3SB105 | 3SB106 | 3SB107 |
| SAMPLE DATE: | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 | 12/18/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 3.5 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 | 3.0 - 3.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.04 J | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW170001 | 3GW180001 | 3GW180001-D | 3GW190001 | 3GW470001 | 3GW770001 | 3GW78D0001 | 3GW78S0001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3GW17 | 3GW18 | 3GW18 | 3GW19 | 3GW47 | 3GW77 | 3GW78D | 3GW78S |
| SAMPLE DATE: | 02/10/99 | 02/10/99 | 02/10/99 | 02/11/99 | 02/11/99 | 02/11/99 | 02/21/99 | 02/10/99 |
| ASSOCIATED DUPLICATE: | | 3GW180001-D | 3GW180001 | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 72.4 B | 161 B | 123 B | 971 | 39700 | 9990 | 13.6 B | 126 B |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 7.3 | 2.6 | 1.5 U | 1.5 U |
| BARIUM | 87.3 | 50.0 | 48.7 | 149 | 688 | 168 | 97.6 | 46.6 |
| BERYLLIUM | 0.20 B | 0.10 U | 0.10 U | 0.58 B | 6.2 | 1.1 B | 0.13 B | 0.10 U |
| CADMIUM | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ |
| CALCIUM | 27700 | 14800 | 14300 | 22700 | 41700 | 11100 | 12900 | 6400 |
| CHROMIUM | 2.3 U | 2.3 U | 2.3 U | 29.5 | 73.2 | 25.3 | 2.3 U | 3.7 B |
| COBALT | 7.2 | 10.2 | 10.9 | 26.9 | 37.4 | 13.4 | 3.3 U | 3.3 U |
| COPPER | 2.4 U | 2.4 U | 2.4 U | 5.8 | 115 | 17.5 | 2.4 U | 2.4 U |
| CYANIDE | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 10.0 U | 2.7 U |
| IRON | 7950 | 10400 | 10300 | 13600 | 91500 | 36200 | 655 J | 314 B |
| LEAD | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 32.2 | 10.6 | 1.0 U | 1.0 U |
| MAGNESIUM | 19900 | 11200 | 10900 | 9900 | 21100 | 8270 | 6280 | 4070 |
| MANGANESE | 1550 | 1380 | 1340 | 547 | 2070 | 1110 | 81.8 | 98.0 |
| MERCURY | 0.26 | 0.20 U | 0.20 U | 0.20 U | 0.39 | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 47.1 | 40.8 | 44.1 | 30.1 | 55.4 | 25.1 | 7.5 U | 7.5 U |
| POTASSIUM | 3140 | 2370 | 1970 | 3040 | 9700 | 5510 | 3620 | 1110 |
| SELENIUM | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 13500 | 11400 | 11200 | 17500 | 28000 | 30500 | 12100 | 11800 |
| THALLIUM | 2.9 U | 2.9 U | 3.8 B | 2.9 U | 6.3 B | 2.9 U | 3.0 B | 3.1 B |
| VANADIUM | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 83.3 | 26.0 | 2.1 U | 2.1 U |
| ZINC | 17.3 B | 12.4 B | 13.4 B | 53.1 B | 226 | 58.7 B | 2.0 B | 10.2 B |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 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 | 5.0 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 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 | 5.0 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2-CHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW170001 | 3GW180001 | 3GW180001-D | 3GW190001 | 3GW470001 | 3GW770001 | 3GW78D0001 | 3GW78S0001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3GW17 | 3GW18 | 3GW18 | 3GW19 | 3GW47 | 3GW77 | 3GW78D | 3GW78S |
| SAMPLE DATE: | 02/10/99 | 02/10/99 | 02/10/99 | 02/11/99 | 02/11/99 | 02/11/99 | 02/21/99 | 02/10/99 |
| ASSOCIATED DUPLICATE: | | 3GW180001-D | 3GW180001 | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 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 | 5.0 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 3-NITROANILINE | 20 U | 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 | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 4-NITROANILINE | 20 U | 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 | 20 U |
| ACENAPHTHENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BENZO(B)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BENZO(K)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5.5 | 5 U | 5.0 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| FLUORENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW170001 | 3GW180001 | 3GW180001-D | 3GW190001 | 3GW470001 | 3GW770001 | 3GW78D0001 | 3GW78S0001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3GW17 | 3GW18 | 3GW18 | 3GW19 | 3GW47 | 3GW77 | 3GW78D | 3GW78S |
| SAMPLE DATE: | 02/10/99 | 02/10/99 | 02/10/99 | 02/11/99 | 02/11/99 | 02/11/99 | 02/21/99 | 02/10/99 |
| ASSOCIATED DUPLICATE: | | 3GW180001-D | 3GW180001 | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| NAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1.0 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1.1 | 1 U | 1 U | 1.0 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2.6 | 1 U | 1 U | 1.0 U | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5.0 UR | 5 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U |
| ACETONE | 1.4 L | 5 UR | 1.8 L | 3.1 L | 1.5 L | 1.7 L | 1.4 B | 5 UR |
| BENZENE | 1 U | 1 U | 1 U | 1.8 | 1 U | 1 U | 1.0 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| BROMOFORM | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 29 | 1 U | 1 U | 1.0 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| CHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| CHLOROFORM | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW170001 | 3GW180001 | 3GW180001-D | 3GW190001 | 3GW470001 | 3GW770001 | 3GW78D0001 | 3GW78S0001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3GW17 | 3GW18 | 3GW18 | 3GW19 | 3GW47 | 3GW77 | 3GW78D | 3GW78S |
| SAMPLE DATE: | 02/10/99 | 02/10/99 | 02/10/99 | 02/11/99 | 02/11/99 | 02/11/99 | 02/21/99 | 02/10/99 |
| ASSOCIATED DUPLICATE: | | 3GW180001-D | 3GW180001 | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 0.71 J | 0.72 J | 23 | 1 U | 0.86 J | 1.0 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2.0 U | 2 U |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 0.20 J | 1 U |
| TOLUENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 5.3 | 1 U | 1 U | 1.0 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| TRICHLOROETHENE | 1 U | 0.26 J | 0.27 J | 1.2 J | 1 U | 1 U | 1.0 U | 1 U |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 3.3 | 1 U | 1 U | 1.0 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.1 UL | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW170001 | 3GW180001 | 3GW180001-D | 3GW190001 | 3GW470001 | 3GW770001 | 3GW78D0001 | 3GW78S0001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 3GW17 | 3GW18 | 3GW18 | 3GW19 | 3GW47 | 3GW77 | 3GW78D | 3GW78S |
| SAMPLE DATE: | 02/10/99 | 02/10/99 | 02/10/99 | 02/11/99 | 02/11/99 | 02/11/99 | 02/21/99 | 02/10/99 |
| ASSOCIATED DUPLICATE: | | 3GW180001-D | 3GW180001 | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.052 UL | 0.050 U | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.52 UL | 0.50 U | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.2 UL | 5.0 U | 5.0 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 | 0.23 | 0.22 | 0.20 | 0.20 U | 0.23 | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.31 U | 0.32 U | 0.30 U | 0.25 U | 0.20 U | 0.28 U | 0.20 U | 0.20 U |
| RDX | 3.5 U | 4 U | 4 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW1020001 | 3GW1040001 | 3GW1070001 |
|---|---|---|---|
| LOCATION: | 3GW102 | 3GW104 | 3GW107 |
| SAMPLE DATE: | 02/11/99 | 02/10/99 | 02/11/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | |
| ALUMINUM | 130 B | 164 B | 2780 |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 139 | 141 | 52.9 |
| BERYLLIUM | 0.20 B | 0.10 U | 0.18 B |
| CADMIUM | 2.7 UJ | 2.7 UJ | 2.7 UJ |
| CALCIUM | 33600 | 19100 | 11000 |
| CHROMIUM | 2.5 B | 9.8 B | 3.4 B |
| COBALT | 3.3 U | 24.6 | 23.4 |
| COPPER | 2.8 | 2.4 U | 10.6 |
| CYANIDE | 2.7 U | 2.7 U | 2.7 U |
| IRON | 4330 | 4190 | 9000 |
| LEAD | 1.0 U | 1.0 U | 2.6 |
| MAGNESIUM | 9860 | 7720 | 6260 |
| MANGANESE | 218 | 237 | 3460 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 7.5 U | 12.9 | 19.1 |
| POTASSIUM | 9470 | 3010 | 9650 |
| SELENIUM | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 12000 | 9120 | 26700 |
| THALLIUM | 2.9 U | 2.9 U | 3.6 B |
| VANADIUM | 2.1 U | 2.1 U | 3.9 |
| ZINC | 20.0 B | 6.0 B | 34.5 B |
| **SEMIVOLATILES (ug/L)** | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 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 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW1020001 | 3GW1040001 | 3GW1070001 |
|---|---|---|---|
| LOCATION: | 3GW102 | 3GW104 | 3GW107 |
| SAMPLE DATE: | 02/11/99 | 02/10/99 | 02/11/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U | 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 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U | 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 |
| 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 |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 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 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 5 U | 5 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW1020001 | 3GW1040001 | 3GW1070001 |
|---|---|---|---|
| LOCATION: | 3GW102 | 3GW104 | 3GW107 |
| SAMPLE DATE: | 02/11/99 | 02/10/99 | 02/11/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 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 |
| NAPHTHALENE | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U |
| **VOLATILES (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 DICHLOROBENZENE | 1 U | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 UR | 5 UR | 5 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U |
| ACETONE | 2.2 L | 1.8 L | 2.1 L |
| 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 DISULFIDE | 1 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U |
| CHLOROBENZENE | 1 U | 1 U | 0.65 J |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U |
| CHLOROETHANE | 1 U | 1 U | 1 U |
| CHLOROFORM | 1 U | 1 U | 1 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW1020001 | 3GW1040001 | 3GW1070001 |
|---|---|---|---|
| LOCATION: | 3GW102 | 3GW104 | 3GW107 |
| SAMPLE DATE: | 02/11/99 | 02/10/99 | 02/11/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 35 | 3.7 | 3.4 |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U |
| ETHYLBENZENE | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U |
| STYRENE | 1 U | 1 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U | 0.62 J |
| TOLUENE | 1 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 0.49 J | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 21 J | 6.3 J | 0.59 J |
| VINYL CHLORIDE | 1.5 | 1 U | 0.25 J |
| XYLENES, TOTAL | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U |

TABLE J-3

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 3GW1020001 | 3GW1040001 | 3GW1070001 |
|---|---|---|---|
| LOCATION: | 3GW102 | 3GW104 | 3GW107 |
| SAMPLE DATE: | 02/11/99 | 02/10/99 | 02/11/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.54 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.51 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.75 |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.95 U | 0.81 |
| TETRYL | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U |

TABLE J-4

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES

| SAMPLE I.D.: | 3GW190001-F | 3GW470001-F | 3GW770001-F | 3GW1040001-F | 3GW1070001-F |
|---|---|---|---|---|---|
| LOCATION: | 3GW19 | 3GW47 | 3GW77 | 3GW104 | 3GW107 |
| SAMPLE DATE: | 02/11/99 | 02/11/99 | 02/11/99 | 02/10/99 | 02/11/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | |
| ALUMINUM, FILTERED | 33.2 B | 346 B | 143 B | 12.7 U | 26.3 B |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 131 | 32.9 | 80.6 | 136 | 37 |
| BERYLLIUM, FILTERED | 0.32 B | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| CADMIUM, FILTERED | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UJ |
| CALCIUM, FILTERED | 22000 | 4760 | 8590 | 19800 | 15400 |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U | 2.3 U | 5.5 B | 2.3 U |
| COBALT, FILTERED | 14 | 3.3 U | 3.8 | 18.1 | 17.8 |
| COPPER, FILTERED | 5.8 | 2.4 U | 2.4 U | 2.4 U | 2.4 U |
| IRON, FILTERED | 9370 | 594 | 6770 | 3780 | 7960 |
| LEAD, FILTERED | 1 U | 1 U | 1 U | 1 U | 1 U |
| MAGNESIUM, FILTERED | 9640 | 2000 | 4540 | 7820 | 6350 |
| MANGANESE, FILTERED | 456 | 382 | 885 | 237 | 4080 |
| MERCURY, FILTERED | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 13.4 | 7.5 U | 7.5 U | 8.5 | 11.3 |
| POTASSIUM, FILTERED | 3150 | 1260 | 2490 | 3020 | 12800 |
| SELENIUM, FILTERED | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER, FILTERED | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 16700 | 26400 | 30800 | 8250 | 31000 |
| THALLIUM, FILTERED | 2.9 U | 3.3 B | 4.6 B | 3.4 B | 2.9 U |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 77.8 | 8.7 B | 5.6 B | 19.2 B | 9.7 B |

TABLE J-5

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 3SW1000001 | 3SW1010001 | 3SW1020001 | 3SW1030001 | 3SW1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SW/SD100 | 3SW/SD101 | 3SW/SD102 | 3SW/SD103 | 3SW/SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | |
| ALUMINUM | 55.6 | 40.2 B | 35.5 B | 26.8 B | 29.5 B |
| ANTIMONY | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| ARSENIC | 2.6 U | 2.6 U | 2.6 U | 2.6 U | 2.6 U |
| BARIUM | 46.2 | 51.5 | 51.4 | 49.7 | 49.4 |
| BERYLLIUM | 0.11 B | 0.10 U | 0.10 U | 0.10 U | 0.20 B |
| CADMIUM | 0.20 U | 0.20 U | 0.20 U | 0.22 K | 0.24 K |
| CALCIUM | 26400 | 29200 | 29700 | 29600 | 29600 |
| CHROMIUM | 0.90 U | 0.90 U | 0.90 U | 0.90 U | 0.90 U |
| COBALT | 1.8 B | 2.4 B | 1.4 B | 1.7 B | 1.4 B |
| COPPER | 0.80 U | 1.5 K | 0.80 U | 2.1 K | 0.80 U |
| CYANIDE | 2.2 B | 1.9 B | 2.7 U | 2.7 B | 2.7 U |
| IRON | 440 | 607 | 391 | 377 | 360 |
| LEAD | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| MAGNESIUM | 9620 | 10600 | 10900 | 10600 | 10900 |
| MANGANESE | 380 | 429 | 366 | 324 | 305 |
| MERCURY | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| NICKEL | 1.8 K | 5.7 K | 1.6 K | 1.7 K | 1.2 U |
| POTASSIUM | 4860 | 5230 | 5120 | 5270 | 5460 |
| SELENIUM | 2.8 U | 3.9 B | 2.8 U | 2.8 U | 2.8 U |
| SILVER | 0.70 U | 0.70 U | 0.70 U | 0.70 U | 0.70 U |
| SODIUM | 20500 | 22300 | 20900 | 21600 | 22200 |
| THALLIUM | 5.7 B | 6.8 B | 5.6 U | 5.7 B | 5.6 U |
| VANADIUM | 0.60 U | 0.60 U | 0.60 U | 0.60 U | 0.60 U |
| ZINC | 22.8 B | 21.7 B | 30.1 K | 9.7 B | 9.0 B |
| **SEMIVOLATILES (ug/L)** | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 | 5 U | 5 U | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U |

TABLE J-5

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 3SW1000001 | 3SW1010001 | 3SW1020001 | 3SW1030001 | 3SW1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SW/SD100 | 3SW/SD101 | 3SW/SD102 | 3SW/SD103 | 3SW/SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 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 |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| ACENAPHTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(B)FLUORANTHENE | 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 |
| BENZO(K)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 UJ | 5 UJ | 5 UJ | 5 UJ | 5 UJ |
| HEXACHLOROETHANE | 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 |
| ISOPHORONE | 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 |

TABLE J-5

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.:<br>LOCATION:<br>SAMPLE DATE:<br>VALIDATION STATUS: | 3SW1000001<br>3SW/SD100<br>11/18/98<br>VALIDATED | 3SW1010001<br>3SW/SD101<br>11/18/98<br>VALIDATED | 3SW1020001<br>3SW/SD102<br>11/18/98<br>VALIDATED | 3SW1030001<br>3SW/SD103<br>11/18/98<br>VALIDATED | 3SW1040001<br>3SW/SD104<br>11/18/98<br>VALIDATED |
|---|---|---|---|---|---|
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 0.14 J | 1 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACETONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| BENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOFORM | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROFORM | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE J-5

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.:<br>LOCATION:<br>SAMPLE DATE:<br>VALIDATION STATUS: | 3SW1000001<br>3SW/SD100<br>11/18/98<br>VALIDATED | 3SW1010001<br>3SW/SD101<br>11/18/98<br>VALIDATED | 3SW1020001<br>3SW/SD102<br>11/18/98<br>VALIDATED | 3SW1030001<br>3SW/SD103<br>11/18/98<br>VALIDATED | 3SW1040001<br>3SW/SD104<br>11/18/98<br>VALIDATED |
|---|---|---|---|---|---|
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 1.100000 B | 1 B | 0.88 B | 0.76 B | 0.93 B |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TETRACHLOROETHENE | 0.1 J | 1 U | 1 U | 1 U | 1 U |
| TOLUENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 0.21 J | 0.17 J | 0.17 J | 1 U | 1 U |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U | 0.015 R | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U | 0.0031 R | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

TABLE J-5

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 3SW1000001 | 3SW1010001 | 3SW1020001 | 3SW1030001 | 3SW1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SW/SD100 | 3SW/SD101 | 3SW/SD102 | 3SW/SD103 | 3SW/SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **EXPLOSIVES (ug/L)** | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | | | | |
| TOTAL DISSOLVED SOLIDS | 180 | 190 | 200 | 190 | 190 |
| TOTAL SUSPENDED SOLIDS | 4 U | 4 U | 4 U | 4 U | 4 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | |
| ALUMINUM | 967 J | 3500 J | 479 J | 323 J | 1410 J |
| ANTIMONY | 0.59 UL | 0.72 UL | 0.65 UL | 0.62 UL | 0.67 UL |
| ARSENIC | 2.0 | 1.5 | 0.89 | 0.63 | 0.91 |
| BARIUM | 13.1 | 46.4 | 24.5 | 8.9 | 17.9 |
| BERYLLIUM | 0.04 B | 0.21 B | 0.09 B | 0.03 B | 0.17 B |
| CADMIUM | 0.04 U | 0.05 U | 0.09 B | 0.04 U | 0.05 U |
| CALCIUM | 244 B | 273 B | 301 B | 134 B | 455 |
| CHROMIUM | 6.0 J | 4.7 J | 2.5 J | 1.4 J | 6.8 J |
| COBALT | 6.4 | 3.7 | 5.0 | 1.4 | 3.6 |
| COPPER | 105 J | 3.1 J | 5.0 J | 1.3 J | 13.0 J |
| CYANIDE | 0.33 | 0.17 U | 0.16 U | 0.15 U | 0.16 U |
| IRON | 10700 J | 4890 J | 5030 J | 1570 J | 10100 J |
| LEAD | 10.2 J | 4.6 J | 3.9 J | 1.1 B | 3.6 J |
| MAGNESIUM | 4250 | 852 | 212 | 122 | 294 |
| MANGANESE | 693 L | 243 L | 1430 L | 329 L | 659 L |
| MERCURY | 0.05 U | 0.06 U | 0.06 U | 0.08 | 0.06 U |
| NICKEL | 52.8 J | 5.3 J | 10.7 J | 2.9 J | 7.5 J |
| POTASSIUM | 199 | 222 | 70.5 B | 87.3 | 132 |
| SELENIUM | 0.80 B | 0.72 UJ | 1.0 B | 0.62 UJ | 1.1 B |
| SILVER | 0.47 B | 0.18 U | 0.16 U | 0.15 U | 0.17 U |
| SODIUM | 17.4 U | 22.4 B | 19.1 U | 18.3 U | 19.7 U |
| THALLIUM | 1.2 U | 1.4 U | 1.3 U | 1.2 U | 1.3 U |
| VANADIUM | 5.3 | 5.9 | 3.7 | 1.7 | 5.4 |
| ZINC | 62.9 J | 16.0 B | 30.1 J | 16.6 B | 56.1 J |
| **SEMIVOLATILES (ug/kg)** | | | | | |
| 1,2,4-TRICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 1,2-DICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 1,3-DICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 1,4-DICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4,5-TRICHLOROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 2,4,6-TRICHLOROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4-DICHLOROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4-DIMETHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4-DINITROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 2,4-DINITROTOLUENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,6-DINITROTOLUENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-CHLORONAPHTHALENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-CHLOROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-METHYLNAPHTHALENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-METHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-NITROANILINE | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 2-NITROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 3,3'-DICHLOROBENZIDINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 3-NITROANILINE | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 4,6-DINITRO-2-METHYLPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 4-BROMOPHENYL PHENYL ETHER | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-CHLORO-3-METHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-CHLOROANILINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-CHLOROPHENYL PHENYL ETHER | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-METHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-NITROANILINE | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 4-NITROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| ACENAPHTHENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| ACENAPHTHYLENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| ANTHRACENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BENZO(A)ANTHRACENE | 44 J | 420 U | 380 U | 360 U | 48 J |
| BENZO(A)PYRENE | 350 UR | 420 U | 380 U | 360 U | 54 J |
| BENZO(B)FLUORANTHENE | 350 UR | 420 U | 380 U | 360 U | 82 J |
| BENZO(G,H,I)PERYLENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BENZO(K)FLUORANTHENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BIS(2-CHLOROETHOXY)METHANE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BIS(2-CHLOROETHYL)ETHER | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BUTYLBENZYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| CARBAZOLE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| CHRYSENE | 42 J | 420 U | 380 U | 360 U | 53 J |
| DI-N-BUTYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DI-N-OCTYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIBENZO(A,H)ANTHRACENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIBENZOFURAN | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIETHYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIMETHYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| FLUORANTHENE | 62 J | 420 U | 380 U | 360 U | 70 J |
| FLUORENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROBUTADIENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROCYCLOPENTADIENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROETHANE | 350 UR | 420 U | 380 U | 360 U | 390 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| INDENO(1,2,3-CD)PYRENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| ISOPHORONE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| N-NITROSO-DI-N-PROPYLAMINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| N-NITROSODIPHENYLAMINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| NAPHTHALENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| NITROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| PENTACHLOROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| PHENANTHRENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| PHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| PYRENE | 71 J | 420 U | 380 U | 360 U | 48 J |
| **VOLATILES (ug/kg)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 2-BUTANONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 2-HEXANONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| ACETONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| BENZENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| BROMOFORM | 10 U | 13 U | 12 U | 11 U | 12 U |
| BROMOMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CARBON DISULFIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CARBON TETRACHLORIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROBENZENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLORODIBROMOMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROFORM | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| ETHYLBENZENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| METHYLENE CHLORIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| STYRENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| TETRACHLOROETHENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| TOLUENE | 10 U | 13 U | 12 U | 11 U | 12 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TRANS-1,3-DICHLOROPROPENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| TRICHLOROETHENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| VINYL CHLORIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| XYLENES, TOTAL | 10 U | 13 U | 12 U | 11 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | |
| 4,4'-DDD | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| 4,4'-DDE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 0.24 J |
| 4,4'-DDT | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ALDRIN | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| ALPHA-BHC | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| ALPHA-CHLORDANE | 1.8 UL | 1.5 J | 0.74 J | 2.4 | 0.76 J |
| AROCLOR-1016 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1221 | 70 UL | 85 U | 77 U | 73 U | 79 U |
| AROCLOR-1232 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1242 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1248 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1254 | 35 UL | 53 J | 21 J | 77 J | 17 J |
| AROCLOR-1260 | 35 UL | 42 U | 38 U | 37 U | 20 J |
| BETA-BHC | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| DELTA-BHC | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| DIELDRIN | 3.5 UL | 2.5 J | 0.79 J | 4.1 R | 0.67 J |
| ENDOSULFAN I | 1.8 UL | 0.0062 J | 0.47 J | 1.8 U | 2.0 U |
| ENDOSULFAN II | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDOSULFAN SULFATE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDRIN | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDRIN ALDEHYDE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDRIN KETONE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| GAMMA-BHC (LINDANE) | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| GAMMA-CHLORDANE | 1.8 UL | 0.11 J | 0.46 J | 1.8 U | 0.11 J |
| HEPTACHLOR | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| HEPTACHLOR EPOXIDE | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| METHOXYCHLOR | 18 UL | 21 U | 19 U | 0.41 B | 1.4 B |
| TOXAPHENE | 180 UL | 210 U | 190 U | 180 U | 200 U |
| **EXPLOSIVES (mg/kg)** | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**VALIDATION STATUS:** | **3SD1000001**<br>**3SD100**<br>**11/18/98**<br>**VALIDATED** | **3SD1010001**<br>**3SD101**<br>**11/18/98**<br>**VALIDATED** | **3SD1020001**<br>**3SD102**<br>**11/18/98**<br>**VALIDATED** | **3SD1030001**<br>**3SD103**<br>**11/18/98**<br>**VALIDATED** | **3SD1040001**<br>**3SD104**<br>**11/18/98**<br>**VALIDATED** |
|---|---|---|---|---|---|
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | |
| TOTAL ORGANIC CARBON | 2600 | 3300 | 840 | 580 | 990 |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | |
| ALUMINUM | 967 J | 3500 J | 479 J | 323 J | 1410 J |
| ANTIMONY | 0.59 UL | 0.72 UL | 0.65 UL | 0.62 UL | 0.67 UL |
| ARSENIC | 2.0 | 1.5 | 0.89 | 0.63 | 0.91 |
| BARIUM | 13.1 | 46.4 | 24.5 | 8.9 | 17.9 |
| BERYLLIUM | 0.04 B | 0.21 B | 0.09 B | 0.03 B | 0.17 B |
| CADMIUM | 0.04 U | 0.05 U | 0.09 B | 0.04 U | 0.05 U |
| CALCIUM | 244 B | 273 B | 301 B | 134 B | 455 |
| CHROMIUM | 6.0 J | 4.7 J | 2.5 J | 1.4 J | 6.8 J |
| COBALT | 6.4 | 3.7 | 5.0 | 1.4 | 3.6 |
| COPPER | 105 J | 3.1 J | 5.0 J | 1.3 J | 13.0 J |
| CYANIDE | 0.33 | 0.17 U | 0.16 U | 0.15 U | 0.16 U |
| IRON | 10700 J | 4890 J | 5030 J | 1570 J | 10100 J |
| LEAD | 10.2 J | 4.6 J | 3.9 J | 1.1 B | 3.6 J |
| MAGNESIUM | 4250 | 852 | 212 | 122 | 294 |
| MANGANESE | 693 L | 243 L | 1430 L | 329 L | 659 L |
| MERCURY | 0.05 U | 0.06 U | 0.06 U | 0.08 | 0.06 U |
| NICKEL | 52.8 J | 5.3 J | 10.7 J | 2.9 J | 7.5 J |
| POTASSIUM | 199 | 222 | 70.5 B | 87.3 | 132 |
| SELENIUM | 0.80 B | 0.72 UJ | 1.0 B | 0.62 UJ | 1.1 B |
| SILVER | 0.47 B | 0.18 U | 0.16 U | 0.15 U | 0.17 U |
| SODIUM | 17.4 U | 22.4 B | 19.1 U | 18.3 U | 19.7 U |
| THALLIUM | 1.2 U | 1.4 U | 1.3 U | 1.2 U | 1.3 U |
| VANADIUM | 5.3 | 5.9 | 3.7 | 1.7 | 5.4 |
| ZINC | 62.9 J | 16.0 B | 30.1 J | 16.6 B | 56.1 J |
| **SEMIVOLATILES (ug/kg)** | | | | | |
| 1,2,4-TRICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 1,2-DICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 1,3-DICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 1,4-DICHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4,5-TRICHLOROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 2,4,6-TRICHLOROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4-DICHLOROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4-DIMETHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,4-DINITROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 2,4-DINITROTOLUENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2,6-DINITROTOLUENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-CHLORONAPHTHALENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-CHLOROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-METHYLNAPHTHALENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-METHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 2-NITROANILINE | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 2-NITROPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 3,3'-DICHLOROBENZIDINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 3-NITROANILINE | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 4,6-DINITRO-2-METHYLPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 4-BROMOPHENYL PHENYL ETHER | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-CHLORO-3-METHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-CHLOROANILINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-CHLOROPHENYL PHENYL ETHER | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-METHYLPHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| 4-NITROANILINE | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| 4-NITROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| ACENAPHTHENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| ACENAPHTHYLENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| ANTHRACENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BENZO(A)ANTHRACENE | 44 J | 420 U | 380 U | 360 U | 48 J |
| BENZO(A)PYRENE | 350 UR | 420 U | 380 U | 360 U | 54 J |
| BENZO(B)FLUORANTHENE | 350 UR | 420 U | 380 U | 360 U | 82 J |
| BENZO(G,H,I)PERYLENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BENZO(K)FLUORANTHENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BIS(2-CHLOROETHOXY)METHANE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BIS(2-CHLOROETHYL)ETHER | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| BUTYLBENZYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| CARBAZOLE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| CHRYSENE | 42 J | 420 U | 380 U | 360 U | 53 J |
| DI-N-BUTYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DI-N-OCTYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIBENZO(A,H)ANTHRACENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIBENZOFURAN | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIETHYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| DIMETHYL PHTHALATE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| FLUORANTHENE | 62 J | 420 U | 380 U | 360 U | 70 J |
| FLUORENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROBUTADIENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROCYCLOPENTADIENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| HEXACHLOROETHANE | 350 UR | 420 U | 380 U | 360 U | 390 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 |
|---|---|---|---|---|---|
| LOCATION: | 3SD100 | 3SD101 | 3SD102 | 3SD103 | 3SD104 |
| SAMPLE DATE: | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 | 11/18/98 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| INDENO(1,2,3-CD)PYRENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| ISOPHORONE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| N-NITROSO-DI-N-PROPYLAMINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| N-NITROSODIPHENYLAMINE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| NAPHTHALENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| NITROBENZENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| PENTACHLOROPHENOL | 840 UR | 1000 U | 920 U | 880 U | 950 U |
| PHENANTHRENE | 350 UR | 420 U | 380 U | 360 U | 390 U |
| PHENOL | 350 UR | 420 U | 380 U | 360 U | 390 U |
| PYRENE | 71 J | 420 U | 380 U | 360 U | 48 J |
| **VOLATILES (ug/kg)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 10 U | 13 U | 12 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 2-BUTANONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 2-HEXANONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| ACETONE | 10 U | 13 U | 12 U | 11 U | 12 U |
| BENZENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| BROMOFORM | 10 U | 13 U | 12 U | 11 U | 12 U |
| BROMOMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CARBON DISULFIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CARBON TETRACHLORIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROBENZENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLORODIBROMOMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROFORM | 10 U | 13 U | 12 U | 11 U | 12 U |
| CHLOROMETHANE | 10 U | 13 U | 12 U | 11 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| ETHYLBENZENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| METHYLENE CHLORIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| STYRENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| TETRACHLOROETHENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| TOLUENE | 10 U | 13 U | 12 U | 11 U | 12 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.:<br>LOCATION:<br>SAMPLE DATE:<br>VALIDATION STATUS: | 3SD1000001<br>3SD100<br>11/18/98<br>VALIDATED | 3SD1010001<br>3SD101<br>11/18/98<br>VALIDATED | 3SD1020001<br>3SD102<br>11/18/98<br>VALIDATED | 3SD1030001<br>3SD103<br>11/18/98<br>VALIDATED | 3SD1040001<br>3SD104<br>11/18/98<br>VALIDATED |
|---|---|---|---|---|---|
| TRANS-1,3-DICHLOROPROPENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| TRICHLOROETHENE | 10 U | 13 U | 12 U | 11 U | 12 U |
| VINYL CHLORIDE | 10 U | 13 U | 12 U | 11 U | 12 U |
| XYLENES, TOTAL | 10 U | 13 U | 12 U | 11 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | |
| 4,4'-DDD | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| 4,4'-DDE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 0.24 J |
| 4,4'-DDT | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ALDRIN | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| ALPHA-BHC | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| ALPHA-CHLORDANE | 1.8 UL | 1.5 J | 0.74 J | 2.4 | 0.76 J |
| AROCLOR-1016 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1221 | 70 UL | 85 U | 77 U | 73 U | 79 U |
| AROCLOR-1232 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1242 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1248 | 35 UL | 42 U | 38 U | 37 U | 40 U |
| AROCLOR-1254 | 35 UL | 53 J | 21 J | 77 J | 17 J |
| AROCLOR-1260 | 35 UL | 42 U | 38 U | 37 U | 20 J |
| BETA-BHC | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| DELTA-BHC | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| DIELDRIN | 3.5 UL | 2.5 J | 0.79 J | 4.1 R | 0.67 J |
| ENDOSULFAN I | 1.8 UL | 0.0062 J | 0.47 J | 1.8 U | 2.0 U |
| ENDOSULFAN II | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDOSULFAN SULFATE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDRIN | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDRIN ALDEHYDE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| ENDRIN KETONE | 3.5 UL | 4.2 U | 3.8 U | 3.7 U | 4.0 U |
| GAMMA-BHC (LINDANE) | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| GAMMA-CHLORDANE | 1.8 UL | 0.11 J | 0.46 J | 1.8 U | 0.11 J |
| HEPTACHLOR | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| HEPTACHLOR EPOXIDE | 1.8 UL | 2.1 U | 1.9 U | 1.8 U | 2.0 U |
| METHOXYCHLOR | 18 UL | 21 U | 19 U | 0.41 B | 1.4 B |
| TOXAPHENE | 180 UL | 210 U | 190 U | 180 U | 200 U |
| **EXPLOSIVES (mg/kg)** | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |

TABLE J-6

SITE 3
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**VALIDATION STATUS:** | **3SD1000001**<br>**3SD100**<br>**11/18/98**<br>**VALIDATED** | **3SD1010001**<br>**3SD101**<br>**11/18/98**<br>**VALIDATED** | **3SD1020001**<br>**3SD102**<br>**11/18/98**<br>**VALIDATED** | **3SD1030001**<br>**3SD103**<br>**11/18/98**<br>**VALIDATED** | **3SD1040001**<br>**3SD104**<br>**11/18/98**<br>**VALIDATED** |
|---|---|---|---|---|---|
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | |
| TOTAL ORGANIC CARBON | 2600 | 3300 | 840 | 580 | 990 |

# APPENDIX K

# ANALYTICAL DATA

# SITE 4

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1000100 | 4SS1010100 | 4SS1010100-D | 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SS100/SB100 | 4SS101/SB101 | 4SS101/SB101 | 4SS102/SB102 | 4SS103/SB103 | 4SS103/SB103 | 4SS105/SB105 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/17/98 | 11/19/98 | 11/18/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 4SS1010100-D | 4SS1010100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 7500 J | 5740 J | 3610 J | 6160 J | 10700 J | 8080 J | 4570 J |
| ANTIMONY | 0.67 UL | 0.62 UL | 0.63 UL | 0.60 UL | 0.63 UL | 0.72 B | 0.61 UL |
| ARSENIC | 4.2 | 3.3 | 2.3 | 4.0 | 5.8 | 5.7 | 2.8 |
| BARIUM | 48.8 | 33.9 | 26.2 | 28.5 | 68.7 | 39.2 | 37.0 |
| BERYLLIUM | 0.07 B | 0.05 B | 0.04 B | 0.01 B | 0.18 B | 0.14 B | 0.01 U |
| CADMIUM | 0.15 B | 0.16 B | 0.20 B | 0.04 U | 0.72 | 0.04 U | 0.04 U |
| CALCIUM | 1620 | 1580 | 1120 | 5160 | 5230 | 1960 | 824 |
| CHROMIUM | 22.1 J | 25.7 J | 15.6 J | 14.3 J | 23.5 J | 21.5 J | 15.3 J |
| COBALT | 4.9 | 5.0 | 14.2 | 3.1 | 6.2 | 4.7 | 2.6 |
| COPPER | 62.4 J | 117 J | 86.9 J | 38.7 J | 136 J | 112 J | 45.5 J |
| CYANIDE | 0.16 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.18 | 0.15 U |
| IRON | 13100 J | 10400 J | 8690 J | 10800 J | 19300 J | 15000 J | 9170 J |
| LEAD | 43.1 J | 40.7 J | 24.4 J | 29.0 J | 68.5 J | 44.0 J | 31.8 J |
| MAGNESIUM | 1160 | 2800 | 13200 | 1680 | 1650 | 1490 | 657 |
| MANGANESE | 226 L | 152 L | 229 L | 121 L | 346 L | 180 L | 118 L |
| MERCURY | 0.20 | 0.11 | 0.06 | 0.05 U | 0.14 | 0.21 | 0.12 |
| NICKEL | 20.7 J | 52.4 J | 191 J | 11.9 J | 14.8 J | 19.1 J | 8.1 J |
| POTASSIUM | 304 | 292 | 202 | 466 | 822 | 647 | 203 |
| SELENIUM | 1.0 B | 2.1 B | 0.63 UJ | 2.9 B | 1.0 B | 1.4 B | 1.3 B |
| SILVER | 1.1 | 0.53 B | 0.30 B | 0.15 U | 0.33 B | 0.24 B | 1.4 |
| SODIUM | 19.7 U | 18.3 U | 18.6 U | 90.9 B | 55.8 B | 18.2 U | 18.0 U |
| THALLIUM | 1.3 U | 1.2 U | 1.3 U | 1.2 U | 1.3 U | 1.2 U | 1.2 U |
| VANADIUM | 39.2 | 55.0 | 42.2 | 29.1 | 31.5 | 30.2 | 30.3 |
| ZINC | 62.9 J | 63.3 J | 61.2 J | 58.2 J | 354 J | 82.3 J | 58.9 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 1,2-DICHLOROBENZENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 1,3-DICHLOROBENZENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 1,4-DICHLOROBENZENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2,4,5-TRICHLOROPHENOL | 950 U | 8900 U | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| 2,4,6-TRICHLOROPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2,4-DICHLOROPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2,4-DIMETHYLPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2,4-DINITROPHENOL | 950 U | 8900 U | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| 2,4-DINITROTOLUENE | 390 U | 3600 UR | 3700 U | 1800 U | 370 U | 360 U | 360 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1000100 | 4SS1010100 | 4SS1010100-D | 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SS100/SB100 | 4SS101/SB101 | 4SS101/SB101 | 4SS102/SB102 | 4SS103/SB103 | 4SS103/SB103 | 4SS105/SB105 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/17/98 | 11/19/98 | 11/18/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 4SS1010100-D | 4SS1010100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,6-DINITROTOLUENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2-CHLORONAPHTHALENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2-CHLOROPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2-METHYLNAPHTHALENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2-METHYLPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 2-NITROANILINE | 950 U | 8900 U | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| 2-NITROPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 3,3'-DICHLOROBENZIDINE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 3-NITROANILINE | 950 U | 8900 U | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| 4,6-DINITRO-2-METHYLPHENOL | 950 U | 8900 U | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| 4-BROMOPHENYL PHENYL ETHER | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 4-CHLORO-3-METHYLPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 4-CHLOROANILINE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 4-CHLOROPHENYL PHENYL ETHER | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 4-METHYLPHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| 4-NITROANILINE | 950 U | 8900 U | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| 4-NITROPHENOL | 950 U | 8900 UR | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| ACENAPHTHENE | 390 U | 3600 U | 3700 U | 1800 U | 270 J | 56 J | 360 U |
| ACENAPHTHYLENE | 390 U | 3600 U | 3700 U | 280 J | 370 U | 360 U | 360 U |
| ANTHRACENE | 390 U | 3600 U | 3700 U | 1800 U | 280 J | 66 J | 360 U |
| BENZO(A)ANTHRACENE | 91 J | 3600 U | 3700 U | 1100 J | 1000 | 320 J | 160 J |
| BENZO(A)PYRENE | 63 J | 3600 U | 3700 U | 1300 J | 790 | 260 J | 170 J |
| BENZO(B)FLUORANTHENE | 110 J | 3600 U | 3700 U | 1600 J | 1200 | 390 | 230 J |
| BENZO(G,H,I)PERYLENE | 390 U | 3600 U | 3700 U | 590 J | 140 J | 77 J | 61 J |
| BENZO(K)FLUORANTHENE | 42 J | 3600 U | 3700 U | 350 J | 410 | 130 J | 80 J |
| BIS(2-CHLOROETHOXY)METHANE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| BIS(2-CHLOROETHYL)ETHER | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| BUTYLBENZYL PHTHALATE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| CARBAZOLE | 390 U | 3600 U | 3700 U | 1800 U | 160 J | 360 U | 360 U |
| CHRYSENE | 92 J | 3600 U | 3700 U | 1100 J | 840 | 350 J | 170 J |
| DI-N-BUTYL PHTHALATE | 75 J | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| DI-N-OCTYL PHTHALATE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| DIBENZO(A,H)ANTHRACENE | 390 U | 3600 U | 3700 U | 1800 U | 56 J | 360 U | 360 U |
| DIBENZOFURAN | 390 U | 3600 U | 3700 U | 1800 U | 91 J | 360 U | 360 U |
| DIETHYL PHTHALATE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| DIMET[illegible] PHTHALATE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1000100 | 4SS1010100 | 4SS1010100-D | 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SS100/SB100 | 4SS101/SB101 | 4SS101/SB101 | 4SS102/SB102 | 4SS103/SB103 | 4SS103/SB103 | 4SS105/SB105 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/17/98 | 11/19/98 | 11/18/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 4SS1010100-D | 4SS1010100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| FLUORANTHENE | 200 J | 3600 U | 3700 U | 900 J | 1900 | 970 | 410 |
| FLUORENE | 390 U | 3600 U | 3700 U | 1800 U | 140 J | 360 U | 360 U |
| HEXACHLOROBENZENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| HEXACHLOROBUTADIENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| HEXACHLOROCYCLOPENTADIENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| HEXACHLOROETHANE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| INDENO(1,2,3-CD)PYRENE | 390 U | 3600 U | 3700 U | 470 J | 340 J | 120 J | 82 J |
| ISOPHORONE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| N-NITROSO-DI-N-PROPYLAMINE | 390 U | 3600 UR | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| N-NITROSODIPHENYLAMINE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| NAPHTHALENE | 390 U | 3600 U | 3700 U | 1800 U | 88 J | 360 U | 360 U |
| NITROBENZENE | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| PENTACHLOROPHENOL | 950 U | 8900 UR | 9000 U | 4300 U | 900 U | 880 U | 870 U |
| PHENANTHRENE | 88 J | 3600 U | 3700 U | 520 J | 1600 | 530 | 300 J |
| PHENOL | 390 U | 3600 U | 3700 U | 1800 U | 370 U | 360 U | 360 U |
| PYRENE | 130 J | 3600 U | 3700 U | 1600 J | 1200 | 570 | 320 J |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,1-DICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,1-DICHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,2-DICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,2-DICHLOROPROPANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 2-BUTANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 2-HEXANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| 4-METHYL-2-PENTANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| ACETONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| BENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| BROMODICHLOROMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| BROMOFORM | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| BROMOMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CARBON DISULFIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CARBON TETRACHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CHLOROBENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CHLORODIBROMOMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1000100 | 4SS1010100 | 4SS1010100-D | 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SS100/SB100 | 4SS101/SB101 | 4SS101/SB101 | 4SS102/SB102 | 4SS103/SB103 | 4SS103/SB103 | 4SS105/SB105 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/17/98 | 11/19/98 | 11/18/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 4SS1010100-D | 4SS1010100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CHLOROFORM | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CHLOROMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| CIS-1,3-DICHLOROPROPENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| ETHYLBENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| METHYLENE CHLORIDE | 12 U | 11 U | 2 J | 11 U | 11 U | 11 U | 11 U |
| STYRENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| TETRACHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| TOLUENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| TRICHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| VINYL CHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| XYLENES, TOTAL | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | 20 U | 37 U | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| 4,4'-DDE | 20 U | 37 U | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| 4,4'-DDT | 20 U | 37 U | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| ALDRIN | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |
| ALPHA-BHC | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |
| ALPHA-CHLORDANE | 2.7 R | 12 J | 16 J | 18 U | 1.9 U | 2.5 J | 5.2 R |
| AROCLOR-1016 | 200 U | 370 U | 370 U | 360 U | 37 U | 180 UL | 180 UL |
| AROCLOR-1221 | 400 U | 740 U | 750 U | 710 U | 74 U | 360 UL | 360 U |
| AROCLOR-1232 | 200 U | 370 U | 370 U | 360 U | 37 U | 180 UL | 180 U |
| AROCLOR-1242 | 200 U | 370 U | 370 U | 360 U | 37 U | 180 UL | 180 U |
| AROCLOR-1248 | 200 U | 370 U | 370 U | 360 U | 37 U | 180 UL | 180 U |
| AROCLOR-1254 | 200 U | 370 U | 370 U | 360 U | 37 U | 180 UL | 180 U |
| AROCLOR-1260 | 950 | 1400 J | 1800 | 190 J | 370 | 340 L | 1000 |
| BETA-BHC | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |
| DELTA-BHC | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |
| DIELDRIN | 7.2 J | 6.4 R | 13 R | 36 U | 3.7 U | 2.5 J | 12 J |
| ENDOSULFAN I | 0.094 R | 18 U | 19 U | 18 U | 0.031 R | 9.1 UL | 9.1 U |
| ENDOSULFAN II | 20 U | 37 U | 37 U | 6.8 R | 0.52 R | 0.54 R | 18 U |
| ENDOSULFAN SULFATE | 20 U | 37 U | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| ENDRIN | 20 U | 37 UR | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| ENDRIN ALDEHYDE | 20 U | 37 U | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| ENDRIN KETONE | 20 U | 37 U | 37 U | 36 U | 3.7 U | 18 UL | 18 U |
| GAMMA-BHC (LINDANE) | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1000100 | 4SS1010100 | 4SS1010100-D | 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SS100/SB100 | 4SS101/SB101 | 4SS101/SB101 | 4SS102/SB102 | 4SS103/SB103 | 4SS103/SB103 | 4SS105/SB105 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/17/98 | 11/19/98 | 11/18/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | 4SS1010100-D | 4SS1010100 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| GAMMA-CHLORDANE | 9.9 U | 12 J | 13 J | 18 U | 1.9 U | 9.1 UL | 0.50 J |
| HEPTACHLOR | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |
| HEPTACHLOR EPOXIDE | 9.9 U | 18 U | 19 U | 18 U | 1.9 U | 9.1 UL | 9.1 U |
| METHOXYCHLOR | 7.0 B | 2.8 B | 1.8 B | 47 B | 8.0 B | 6.5 B | 8.6 B |
| TOXAPHENE | 990 U | 1800 U | 1900 U | 1800 U | 190 U | 910 UL | 910 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.46 | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | 69 L | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | 22 U | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | 19 | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | 22.4 U | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | 1.2 B | N/A | N/A |
| PH | N/A | N/A | N/A | N/A | 7.5 | N/A | N/A |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | 28000 | N/A | N/A |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1060100 | 4SS1070100 | 4SS1080100 | 4SS1090100 |
|---|---|---|---|---|
| LOCATION: | 4SS106/SB106 | 4SS107/SB107 | 4SS108/SB108 | 4SS109/SB109 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | |
| ALUMINUM | 3300 J | 5060 | 3640 | 4520 |
| ANTIMONY | 0.59 UL | 0.61 UL | 0.60 UL | 0.58 UL |
| ARSENIC | 1.8 | 3.3 K | 2.3 K | 2.1 K |
| BARIUM | 8.6 | 10.0 | 10.3 | 12.7 |
| BERYLLIUM | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| CADMIUM | 0.04 U | 0.04 U | 0.04 U | 0.04 U |
| CALCIUM | 784 | 1310 | 125 | 143 |
| CHROMIUM | 19.5 J | 11.5 | 8.2 | 7.8 |
| COBALT | 4.0 | 1.3 B | 0.99 B | 1.3 |
| COPPER | 3.8 J | 15.1 | 7.4 | 4.1 |
| CYANIDE | 0.18 | 0.15 UL | 0.15 UL | 0.14 UL |
| IRON | 5560 J | 6890 | 5490 | 5720 |
| LEAD | 2.9 J | 5.0 | 8.7 | 4.0 |
| MAGNESIUM | 5220 | 632 | 223 | 260 |
| MANGANESE | 54.9 L | 26.2 | 20.5 | 27.5 |
| MERCURY | 0.08 | 2.3 | 0.05 U | 0.05 U |
| NICKEL | 63.2 J | 9.3 | 2.5 | 2.9 |
| POTASSIUM | 102 | 227 | 143 | 173 |
| SELENIUM | 0.59 UJ | 0.89 B | 0.60 UJ | 0.70 B |
| SILVER | 0.15 U | 0.15 U | 0.16 B | 0.15 U |
| SODIUM | 17.4 U | 40.2 B | 46.9 B | 28.7 B |
| THALLIUM | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| VANADIUM | 10.3 | 36.8 | 17.1 | 14.1 |
| ZINC | 5.1 B | 9.9 J | 12.7 J | 11.8 J |
| **SEMIVOLATILES (ug/kg)** | | | | |
| 1,2,4-TRICHLOROBENZENE | 350 U | 360 U | 360 U | 340 U |
| 1,2-DICHLOROBENZENE | 350 U | 360 U | 360 U | 340 U |
| 1,3-DICHLOROBENZENE | 350 U | 360 U | 360 U | 340 U |
| 1,4-DICHLOROBENZENE | 350 U | 360 U | 360 U | 340 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 350 U | 360 U | 360 U | 340 U |
| 2,4,5-TRICHLOROPHENOL | 840 U | 880 U | 860 U | 830 U |
| 2,4,6-TRICHLOROPHENOL | 350 U | 360 U | 360 U | 340 U |
| 2,4-DICHLOROPHENOL | 350 U | 360 U | 360 U | 340 U |
| 2,4-DIMETHYLPHENOL | 350 U | 360 U | 360 U | 340 U |
| 2,4-DINITROPHENOL | 840 U | 880 U | 860 U | 830 U |
| 2,4-DINITROTOLUENE | 350 U | 360 U | 360 U | 340 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1060100 | 4SS1070100 | 4SS1080100 | 4SS1090100 |
|---|---|---|---|---|
| LOCATION: | 4SS106/SB106 | 4SS107/SB107 | 4SS108/SB108 | 4SS109/SB109 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,6-DINITROTOLUENE | 350 U | 360 U | 360 U | 340 U |
| 2-CHLORONAPHTHALENE | 350 U | 360 U | 360 U | 340 U |
| 2-CHLOROPHENOL | 350 U | 360 U | 360 U | 340 U |
| 2-METHYLNAPHTHALENE | 350 U | 360 U | 360 U | 340 U |
| 2-METHYLPHENOL | 350 U | 360 U | 360 U | 340 U |
| 2-NITROANILINE | 840 U | 880 U | 860 U | 830 U |
| 2-NITROPHENOL | 350 U | 360 U | 360 U | 340 U |
| 3,3'-DICHLOROBENZIDINE | 350 U | 360 U | 360 U | 340 U |
| 3-NITROANILINE | 840 U | 880 U | 860 U | 830 U |
| 4,6-DINITRO-2-METHYLPHENOL | 840 U | 880 U | 860 U | 830 U |
| 4-BROMOPHENYL PHENYL ETHER | 350 U | 360 U | 360 U | 340 U |
| 4-CHLORO-3-METHYLPHENOL | 350 U | 360 U | 360 U | 340 U |
| 4-CHLOROANILINE | 350 U | 360 U | 360 U | 340 U |
| 4-CHLOROPHENYL PHENYL ETHER | 350 U | 360 U | 360 U | 340 U |
| 4-METHYLPHENOL | 350 U | 360 U | 360 U | 340 U |
| 4-NITROANILINE | 840 U | 880 U | 860 U | 830 U |
| 4-NITROPHENOL | 840 U | 880 U | 860 U | 830 U |
| ACENAPHTHENE | 350 U | 360 U | 360 U | 340 U |
| ACENAPHTHYLENE | 350 U | 360 U | 360 U | 340 U |
| ANTHRACENE | 350 U | 360 U | 360 U | 340 U |
| BENZO(A)ANTHRACENE | 350 U | 360 U | 42 J | 340 U |
| BENZO(A)PYRENE | 350 U | 360 U | 360 U | 340 U |
| BENZO(B)FLUORANTHENE | 350 U | 360 U | 160 J | 340 U |
| BENZO(G,H,I)PERYLENE | 350 U | 360 U | 360 U | 340 U |
| BENZO(K)FLUORANTHENE | 350 U | 360 U | 56 J | 340 U |
| BIS(2-CHLOROETHOXY)METHANE | 350 U | 360 U | 360 U | 340 U |
| BIS(2-CHLOROETHYL)ETHER | 350 U | 360 U | 360 U | 340 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 350 U | 360 U | 360 U | 340 U |
| BUTYLBENZYL PHTHALATE | 350 U | 360 U | 360 U | 340 U |
| CARBAZOLE | 350 U | 360 U | 360 U | 340 U |
| CHRYSENE | 350 U | 360 U | 150 J | 340 U |
| DI-N-BUTYL PHTHALATE | 59 J | 360 U | 360 U | 340 U |
| DI-N-OCTYL PHTHALATE | 350 U | 360 U | 360 U | 340 U |
| DIBENZO(A,H)ANTHRACENE | 350 U | 360 U | 360 U | 340 U |
| DIBENZOFURAN | 350 U | 360 U | 360 U | 340 U |
| DIETHYL PHTHALATE | 350 U | 360 U | 360 U | 340 U |
| DIMETHYL PHTHALATE | 350 U | 360 U | 360 U | 340 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1060100 | 4SS1070100 | 4SS1080100 | 4SS1090100 |
|---|---|---|---|---|
| LOCATION: | 4SS106/SB106 | 4SS107/SB107 | 4SS108/SB108 | 4SS109/SB109 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| FLUORANTHENE | 350 U | 360 U | 290 J | 340 U |
| FLUORENE | 350 U | 360 U | 360 U | 340 U |
| HEXACHLOROBENZENE | 350 U | 360 U | 360 U | 340 U |
| HEXACHLOROBUTADIENE | 350 U | 360 U | 360 U | 340 U |
| HEXACHLOROCYCLOPENTADIENE | 350 U | 360 U | 360 U | 340 U |
| HEXACHLOROETHANE | 350 U | 360 U | 360 U | 340 U |
| INDENO(1,2,3-CD)PYRENE | 350 U | 360 U | 360 U | 340 U |
| ISOPHORONE | 350 U | 360 U | 360 U | 340 U |
| N-NITROSO-DI-N-PROPYLAMINE | 350 U | 360 U | 360 U | 340 U |
| N-NITROSODIPHENYLAMINE | 350 U | 360 U | 360 U | 340 U |
| NAPHTHALENE | 350 U | 360 U | 360 U | 340 U |
| NITROBENZENE | 350 U | 360 U | 360 U | 340 U |
| PENTACHLOROPHENOL | 840 U | 880 U | 860 U | 830 U |
| PHENANTHRENE | 350 U | 360 U | 160 J | 340 U |
| PHENOL | 350 U | 360 U | 360 U | 340 U |
| PYRENE | 350 U | 360 U | 160 J | 340 U |
| **VOLATILES (ug/kg)** | | | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 11 U | 11 U | 10 U |
| 1,1,2,2-TETRACHLOROETHANE | 10 U | 11 U | 11 U | 10 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 11 U | 11 U | 10 U |
| 1,1-DICHLOROETHANE | 10 U | 11 U | 11 U | 10 U |
| 1,1-DICHLOROETHENE | 10 U | 11 U | 11 U | 10 U |
| 1,2-DICHLOROETHANE | 10 U | 11 U | 11 U | 10 U |
| 1,2-DICHLOROETHENE (TOTAL) | 10 U | 11 U | 11 U | 10 U |
| 1,2-DICHLOROPROPANE | 10 U | 11 U | 11 U | 10 U |
| 2-BUTANONE | 10 U | 11 U | 11 U | 10 U |
| 2-HEXANONE | 10 U | 11 U | 11 U | 10 U |
| 4-METHYL-2-PENTANONE | 10 U | 11 U | 11 U | 10 U |
| ACETONE | 10 U | 11 U | 11 U | 10 U |
| BENZENE | 10 U | 11 U | 11 U | 10 U |
| BROMODICHLOROMETHANE | 10 U | 11 U | 11 U | 10 U |
| BROMOFORM | 10 U | 11 U | 11 U | 10 U |
| BROMOMETHANE | 10 U | 11 U | 11 U | 10 U |
| CARBON DISULFIDE | 10 U | 11 U | 11 U | 10 U |
| CARBON TETRACHLORIDE | 10 U | 11 U | 11 U | 10 U |
| CHLOROBENZENE | 10 U | 11 U | 11 U | 10 U |
| CHLORODIBROMOMETHANE | 10 U | 11 U | 11 U | 10 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 4SS1060100 | 4SS1070100 | 4SS1080100 | 4SS1090100 |
|---|---|---|---|---|
| LOCATION: | 4SS106/SB106 | 4SS107/SB107 | 4SS108/SB108 | 4SS109/SB109 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROETHANE | 10 U | 11 U | 11 U | 10 U |
| CHLOROFORM | 10 U | 11 U | 11 U | 10 U |
| CHLOROMETHANE | 10 U | 11 U | 11 U | 10 U |
| CIS-1,3-DICHLOROPROPENE | 10 U | 11 U | 11 U | 10 U |
| ETHYLBENZENE | 10 U | 11 U | 11 U | 10 U |
| METHYLENE CHLORIDE | 10 U | 11 U | 11 U | 10 U |
| STYRENE | 10 U | 11 U | 11 U | 10 U |
| TETRACHLOROETHENE | 10 U | 11 U | 11 U | 10 U |
| TOLUENE | 10 U | 11 U | 11 U | 10 U |
| TRANS-1,3-DICHLOROPROPENE | 10 U | 11 U | 11 U | 10 U |
| TRICHLOROETHENE | 10 U | 11 U | 11 U | 10 U |
| VINYL CHLORIDE | 10 U | 11 U | 11 U | 10 U |
| XYLENES, TOTAL | 10 U | 11 U | 11 U | 10 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | |
| 4,4'-DDD | 3.5 U | 3.6 U | 7.6 R | 3.4 U |
| 4,4'-DDE | 3.5 U | 3.6 U | 25 | 3.4 U |
| 4,4'-DDT | 3.5 U | 3.6 U | 24 R | 3.4 U |
| ALDRIN | 1.7 U | 0.21 R | 8.9 U | 1.7 U |
| ALPHA-BHC | 1.7 U | 1.8 U | 8.9 U | 1.7 U |
| ALPHA-CHLORDANE | 1.7 U | 1.2 J | 11 | 0.27 J |
| AROCLOR-1016 | 35 U | 36 U | 180 U | 34 U |
| AROCLOR-1221 | 70 U | 73 U | 360 U | 69 U |
| AROCLOR-1232 | 35 U | 36 U | 180 U | 34 U |
| AROCLOR-1242 | 35 U | 36 U | 180 U | 34 U |
| AROCLOR-1248 | 35 U | 36 U | 180 U | 34 U |
| AROCLOR-1254 | 35 U | 36 U | 180 U | 34 U |
| AROCLOR-1260 | 35 U | 200 | 260 | 18 J |
| BETA-BHC | 1.7 U | 1.8 U | 8.9 U | 1.7 U |
| DELTA-BHC | 1.7 U | 1.8 U | 8.9 U | 1.7 U |
| DIELDRIN | 3.5 U | 1.4 J | 1.9 R | 3.4 U |
| ENDOSULFAN I | 1.7 U | 1.5 R | 8.9 U | 1.7 U |
| ENDOSULFAN II | 3.5 U | 3.6 U | 1.2 R | 3.4 U |
| ENDOSULFAN SULFATE | 3.5 U | 3.6 U | 18 U | 3.4 U |
| ENDRIN | 3.5 U | 3.6 U | 18 U | 3.4 U |
| ENDRIN ALDEHYDE | 3.5 U | 3.6 U | 7.1 R | 3.4 U |
| ENDRIN KETONE | 3.5 U | 3.6 U | 18 U | 3.4 U |
| GAMMA-BHC (LINDANE) | 1.7 U | 1.8 U | 8.9 U | 1.7 U |

TABLE K-1

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | | 4SS1060100 | 4SS1070100 | 4SS1080100 | 4SS1090100 |
|---|---|---|---|---|---|
| LOCATION: | | 4SS106/SB106 | 4SS107/SB107 | 4SS108/SB108 | 4SS109/SB109 |
| SAMPLE DATE: | | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| ASSOCIATED DUPLICATE: | | | | | |
| VALIDATION STATUS: | | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| GAMMA-CHLORDANE | | 1.7 U | 0.27 J | 1.1 R | 1.7 U |
| HEPTACHLOR | | 1.7 U | 0.085 R | 8.9 U | 1.7 U |
| HEPTACHLOR EPOXIDE | | 1.7 U | 1.8 U | 7.2 J | 1.7 U |
| METHOXYCHLOR | | 0.69 B | 0.19 R | 12 J | 17 U |
| TOXAPHENE | | 170 U | 180 U | 890 U | 170 U |
| **EXPLOSIVES (mg/kg)** | | | | | |
| 1,3,5-TRINITROBENZENE | | 0.25 U | 0.11 J | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | | 0.25 U | 0.11 J | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.10 J |
| 4-NITROTOLUENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | |
| ACID-INSOLUBLE SULFIDE | mg/kg | N/A | N/A | 53 L | N/A |
| BOD-5DAY (TOTAL) | mg/kg | N/A | N/A | 22 U | N/A |
| CHEMICAL OXYGEN DEMAND | mg/L | N/A | N/A | 22 | N/A |
| FERROUS IRON | mg/kg | N/A | N/A | 21.5 UR | N/A |
| HEXAVALENT CHROMIUM | mg/kg | N/A | N/A | 0.54 B | N/A |
| PH | | N/A | N/A | 5.5 | N/A |
| TOTAL ORGANIC CARBON | mg/kg | N/A | N/A | 6600 | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1000200 | 4SU1010200 | 4SU1020200 | 4SU1030200 | 4SU1040200 | 4SU1050200 | 4SU1060200 | 4SU1070200 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB100 | 4SB101 | 4SB102 | 4SB103 | 4SB104 | 4SB105 | 4SB106 | 4SB107 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 5930 J | 5090 J | 7150 J | 4970 J | 8540 J | 5770 J | 2950 J | 5410 |
| ANTIMONY | 0.62 UL | 3.9 B | 0.61 UL | 0.63 B | 0.59 UL | 0.59 UL | 0.58 UL | 0.61 UL |
| ARSENIC | 3.2 | 2.4 | 3.4 | 3.1 | 3.3 | 2.7 | 1.7 | 2.7 K |
| BARIUM | 42.6 | 85.1 | 26.7 | 58.4 | 21.2 | 41.4 | 8.6 | 17.6 |
| BERYLLIUM | 0.03 B | 0.01 U | 0.02 B | 0.01 U | 0.01 U | 0.02 B | 0.01 U | 0.01 U |
| CADMIUM | 0.04 U | 0.56 B | 0.04 U | 2.1 | 0.04 U | 0.04 U | 0.04 U | 0.04 U |
| CALCIUM | 692 | 8000 | 1270 | 6450 | 278 B | 637 | 341 | 485 |
| CHROMIUM | 8.7 J | 11.4 J | 13.4 J | 14.2 J | 14.6 J | 10.6 J | 15 J | 20.9 |
| COBALT | 2.3 | 2.4 | 2.1 | 3 | 1.8 | 3.6 | 5.2 | 1.5 |
| COPPER | 10.2 J | 116 J | 19.2 J | 179 J | 10.2 J | 23.8 J | 3.2 J | 9.7 |
| CYANIDE | 0.15 U | 0.15 U | 0.15 U | 0.15 U | 0.14 U | 0.14 U | 0.14 U | 0.15 UL |
| IRON | 7140 J | 8620 J | 10900 J | 11200 J | 12500 J | 8850 J | 4870 J | 6730 |
| LEAD | 16.7 J | 88.4 J | 15.6 J | 179 J | 8.9 J | 14.8 J | 2.2 J | 15.6 |
| MAGNESIUM | 579 | 1270 | 678 | 1150 | 478 | 621 | 7310 | 324 |
| MANGANESE | 52.5 L | 244 L | 69 L | 119 L | 35.2 L | 160 L | 57.3 L | 28.2 |
| MERCURY | 0.06 U | 0.27 | 0.05 U | 0.05 U | 0.05 U | 0.09 | 0.05 U | 1.1 |
| NICKEL | 5.3 J | 13.5 J | 5.2 J | 8.4 J | 5.1 J | 6.2 J | 85.2 J | 19.6 |
| POTASSIUM | 220 | 252 | 273 | 278 | 272 | 218 | 97.8 | 206 |
| SELENIUM | 0.78 B | 0.72 B | 1.1 B | 0.64 B | 0.59 UJ | 0.59 UJ | 0.58 UJ | 0.94 B |
| SILVER | 0.16 U | 2.6 | 108 | 0.28 B | 0.15 U | 0.34 B | 0.15 U | 0.15 U |
| SODIUM | 19.4 B | 41.9 B | 17.9 U | 17.8 U | 17.5 U | 17.5 U | 17.1 U | 37.3 B |
| THALLIUM | 1.2 U | 1.3 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| VANADIUM | 16.2 | 17.5 | 22.8 | 13.5 | 23.1 | 20.3 | 8.4 | 125 |
| ZINC | 22.4 J | 291 J | 30.9 J | 467 J | 13.3 B | 32.8 J | 6.2 B | 11.2 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 1,2-DICHLOROBENZENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 1,3-DICHLOROBENZENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 1,4-DICHLOROBENZENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2,4,5-TRICHLOROPHENOL | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| 2,4,6-TRICHLOROPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2,4-DICHLOROPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2,4-DIMETHYLPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2,4-DINITROPHENOL | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| 2,4-DINITROTOLUENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2,6-DINITROTOLUENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1000200 | 4SU1010200 | 4SU1020200 | 4SU1030200 | 4SU1040200 | 4SU1050200 | 4SU1060200 | 4SU1070200 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB100 | 4SB101 | 4SB102 | 4SB103 | 4SB104 | 4SB105 | 4SB106 | 4SB107 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2-CHLOROPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2-METHYLNAPHTHALENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2-METHYLPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 2-NITROANILINE | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| 2-NITROPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 3,3'-DICHLOROBENZIDINE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 3-NITROANILINE | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| 4,6-DINITRO-2-METHYLPHENOL | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| 4-BROMOPHENYL PHENYL ETHER | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 4-CHLORO-3-METHYLPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 4-CHLOROANILINE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 4-CHLOROPHENYL PHENYL ETHER | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 4-METHYLPHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| 4-NITROANILINE | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| 4-NITROPHENOL | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| ACENAPHTHENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| ACENAPHTHYLENE | 370 U | 370 U | 95 J | 360 U | 350 U | 350 U | 340 U | 7100 U |
| ANTHRACENE | 370 U | 370 U | 360 U | 55 J | 350 U | 350 U | 340 U | 7100 U |
| BENZO(A)ANTHRACENE | 370 U | 64 J | 170 J | 240 J | 350 U | 350 U | 340 U | 7100 U |
| BENZO(A)PYRENE | 370 U | 53 J | 320 J | 200 J | 350 U | 350 U | 340 U | 7100 U |
| BENZO(B)FLUORANTHENE | 370 U | 88 J | 330 J | 260 J | 350 U | 37 J | 340 U | 7100 U |
| BENZO(G,H,I)PERYLENE | 370 U | 370 U | 100 J | 60 J | 350 U | 350 U | 340 U | 7100 U |
| BENZO(K)FLUORANTHENE | 370 U | 370 U | 81 J | 110 J | 350 U | 350 U | 340 U | 7100 U |
| BIS(2-CHLOROETHOXY)METHANE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| BIS(2-CHLOROETHYL)ETHER | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 2700 J |
| BUTYLBENZYL PHTHALATE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| CARBAZOLE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| CHRYSENE | 370 U | 66 J | 190 J | 230 J | 350 U | 350 U | 340 U | 2100 J |
| DI-N-BUTYL PHTHALATE | 370 U | 370 U | 360 U | 360 U | 400 | 350 U | 340 U | 7100 U |
| DI-N-OCTYL PHTHALATE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| DIBENZO(A,H)ANTHRACENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| DIBENZOFURAN | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| DIETHYL PHTHALATE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| DIMETHYL PHTHALATE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| FLUO[illegible]THENE | 370 U | 110 J | [illegible] J | 490 | 350 U | 65 J | 340 U | [illegible] U |
| FLUO[illegible] | 370 U | 370 U | [illegible] U | 360 U | 350 U | 350 U | 340 U | [illegible] U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1000200 | 4SU1010200 | 4SU1020200 | 4SU1030200 | 4SU1040200 | 4SU1050200 | 4SU1060200 | 4SU1070200 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB100 | 4SB101 | 4SB102 | 4SB103 | 4SB104 | 4SB105 | 4SB106 | 4SB107 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| HEXACHLOROBUTADIENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| HEXACHLOROCYCLOPENTADIENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| HEXACHLOROETHANE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| INDENO(1,2,3-CD)PYRENE | 370 U | 53 J | 150 J | 88 J | 350 U | 350 U | 340 U | 7100 U |
| ISOPHORONE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| N-NITROSO-DI-N-PROPYLAMINE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| N-NITROSODIPHENYLAMINE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| NAPHTHALENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| NITROBENZENE | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| PENTACHLOROPHENOL | 890 U | 900 U | 870 U | 860 U | 850 U | 850 U | 830 U | 17000 U |
| PHENANTHRENE | 370 U | 54 J | 65 J | 300 J | 350 U | 41 J | 340 U | 7100 U |
| PHENOL | 370 U | 370 U | 360 U | 360 U | 350 U | 350 U | 340 U | 7100 U |
| PYRENE | 370 U | 80 J | 260 J | 360 | 350 U | 52 J | 340 U | 7100 U |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,1-DICHLOROETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,1-DICHLOROETHENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,2-DICHLOROETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 1,2-DICHLOROPROPANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 2-BUTANONE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 2-HEXANONE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| 4-METHYL-2-PENTANONE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| ACETONE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| BENZENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| BROMODICHLOROMETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| BROMOFORM | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| BROMOMETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CARBON DISULFIDE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CARBON TETRACHLORIDE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CHLOROBENZENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CHLORODIBROMOMETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CHLOROETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CHLOROFORM | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| CHLOROMETHANE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1000200 | 4SU1010200 | 4SU1020200 | 4SU1030200 | 4SU1040200 | 4SU1050200 | 4SU1060200 | 4SU1070200 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB100 | 4SB101 | 4SB102 | 4SB103 | 4SB104 | 4SB105 | 4SB106 | 4SB107 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| ETHYLBENZENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| METHYLENE CHLORIDE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| STYRENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| TETRACHLOROETHENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| TOLUENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| TRICHLOROETHENE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 60 |
| VINYL CHLORIDE | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| XYLENES, TOTAL | 11 U | 11 U | 11 U | 11 U | 11 U | 11 U | 10 U | 11 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 3.7 UL | 23 J | 3.6 UL | 3.6 UL | 3.5 UL | 3.5 U | 3.4 UL | 72 U |
| 4,4'-DDE | 0.65 J | 59 | 3.6 UL | 0.49 R | 3.5 UL | 3.5 U | 3.4 UL | 72 U |
| 4,4'-DDT | 3.7 UL | 1.7 R | 3.6 UL | 3.6 UL | 3.5 UL | 3.5 U | 3.4 UL | 72 U |
| ALDRIN | 1.8 UL | 0.066 R | 1.8 UL | 0.34 R | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| ALPHA-BHC | 1.8 UL | 1.9 U | 1.8 UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| ALPHA-CHLORDANE | 0.43 J | 0.84 J | 1.8 UL | 0.56 J | 1.8 UL | 1.7 R | 1.7 UL | 36 U |
| AROCLOR-1016 | 37 U | 37 U | 36 UL | 36 UL | 35 UL | 35 U | 34 UL | 720 U |
| AROCLOR-1221 | 74 U | 75 U | 72 UL | 72 UL | 70 UL | 71 U | 69 UL | 1400 U |
| AROCLOR-1232 | 37 U | 37 U | 36 UL | 36 UL | 35 UL | 35 U | 34 UL | 720 U |
| AROCLOR-1242 | 37 U | 37 U | 36 UL | 36 UL | 35 UL | 35 U | 34 UL | 720 U |
| AROCLOR-1248 | 37 U | 37 U | 36 UL | 36 UL | 35 UL | 35 U | 34 UL | 720 U |
| AROCLOR-1254 | 37 U | 37 U | 36 UL | 36 UL | 35 UL | 35 U | 34 UL | 720 U |
| AROCLOR-1260 | 42 L | 110 | 320 L | 81 L | 8.6 J | 340 | 34 UL | 160 J |
| BETA-BHC | 1.8 UL | 1.9 U | 1.8 UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| DELTA-BHC | 1.8 UL | 1.9 U | 1.8 UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| DIELDRIN | 0.63 J | 0.32 R | 3.6 UL | 0.37 J | 3.5 UL | 2 R | 3.4 UL | 72 U |
| ENDOSULFAN I | 0.035 R | 1.9 U | 1.8 UL | 1.8 UL | 0.35 J | 1.8 U | 1.7 UL | 36 U |
| ENDOSULFAN II | 3.7 UL | 3.7 U | 3.6 UL | 0.12 R | 3.5 UL | 3.5 U | 3.4 UL | 25 J |
| ENDOSULFAN SULFATE | 3.7 UL | 3.7 U | 3.6 UL | 3.6 UL | 3.5 UL | 3.5 U | 3.4 UL | 72 U |
| ENDRIN | 3.7 UL | 3.7 U | 3.6 UL | 3.6 UL | 3.5 UL | 3.5 U | 3.4 UL | 72 U |
| ENDRIN ALDEHYDE | 3.7 UL | 3.7 U | 3.6 UL | 3.6 UL | 3.5 UL | 3.5 U | 3.4 UL | 2.6 J |
| ENDRIN KETONE | 3.7 UL | 3.7 U | 3.6 UL | 3.6 UL | 3.5 UL | 3.5 U | 3.4 UL | 11 J |
| GAMMA-BHC (LINDANE) | 1.8 UL | 1.9 U | 1.8 UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| GAMMA-CHLORDANE | 1.8 UL | 0.13 R | 1.8 UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| HEPTACHLOR | 0.51 J | 1.9 U | 1.8 UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | 36 U |
| HEP[illegible]LOR EPOXIDE | 1.8 UL | 1.9 U | [illegible] UL | 1.8 UL | 1.8 UL | 1.8 U | 1.7 UL | [illegible] U |
| METH[illegible]CHLOR | 0.85 B | 1.2 B | [illegible] B | 2.3 B | 0.89 B | 2.5 B | 0.4 B | [illegible] U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1000200 | 4SU1010200 | 4SU1020200 | 4SU1030200 | 4SU1040200 | 4SU1050200 | 4SU1060200 | 4SU1070200 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB100 | 4SB101 | 4SB102 | 4SB103 | 4SB104 | 4SB105 | 4SB106 | 4SB107 |
| SAMPLE DATE: | 11/17/98 | 11/17/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 | 11/19/98 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 180 UL | 190 U | 180 UL | 180 UL | 180 UL | 180 U | 170 UL | 3600 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.088 J |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.5 U | 0.5 U | 0.5 U | 0.1 J | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | 50 UL | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | 22 U | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | 10 U | N/A | N/A | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | 10.8 U | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | 0.86 B | N/A | N/A | N/A | N/A |
| PH | N/A | N/A | N/A | 8.1 | N/A | N/A | N/A | N/A |
| TOTAL KJELDAHL NITROGEN mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | 3300 | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1080200 | 4SU1090200 | 04-SB04-1214 | 04-SB05-0406 | 04-SB06-0408 | 04-SB07-1822 | 04-SB08-0809 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB108 | 4SB109 | 04SB04 | 04SB05 | 04SB06 | 04SB07 | 04SB08 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 3/29/95 | 3/29/95 | 3/29/95 | 3/29/95 | 3/28/95 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 12-14 | 4-6 | 4-8 | 18-22 | 8-9 |
| ASSOCIATED DUPLICATE: | | | | | | | 04-SB08-0809-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 1560 | 3020 | 506 J | 2860 J | 4720 J | 4740 J | 13600 J |
| ANTIMONY | 0.58 UL | 0.57 UL | 0.26 B | 0.25 UL | 0.36 B | 0.25 UL | 0.26 U |
| ARSENIC | 1.1 K | 1.4 K | 0.34 | 1.5 | 0.65 | 1.2 | 2.5 L |
| BARIUM | 5.3 | 9.9 | 3.7 B | 8.8 B | 9.6 B | 8.7 B | 28 |
| BERYLLIUM | 0.01 U | 0.01 U | 0.36 B | 0.53 B | 0.46 B | 0.5 B | 0.37 B |
| CADMIUM | 0.04 U | 0.04 U | 0.34 UL | 0.38 UL | 0.35 UL | 0.38 UL | 0.65 J |
| CALCIUM | 42.8 B | 117 | 8.7 UR | 9.7 UR | 9 UR | 53.8 L | 141 J |
| CHROMIUM | 3.6 | 5.3 | 2.5 | 8.2 | 10.1 | 6.3 | 18.4 J |
| COBALT | 0.59 B | 0.8 B | 1.8 B | 2.5 B | 3.4 B | 2.4 B | 2.4 |
| COPPER | 2.2 | 2.2 | 1.6 B | 3 B | 3.5 K | 3.6 K | 14.1 J |
| CYANIDE | 0.14 UL | 0.14 UL | 1 U | 1.2 U | 1.1 U | 2.3 | 1.2 U |
| IRON | 2520 | 3720 | 588 J | 5770 J | 6270 J | 4880 J | 17800 J |
| LEAD | 1.9 B | 2.4 | 0.55 | 2.4 | 1.5 | 4.4 | 3 |
| MAGNESIUM | 52.8 B | 144 | 4.2 UL | 53.8 L | 89.2 L | 85.9 L | 618 J |
| MANGANESE | 11.5 | 17.6 | 2 K | 4.7 | 21.7 | 7.6 | 58.8 J |
| MERCURY | 0.05 U | 0.05 U | 0.05 U | 0.06 K | 0.08 K | 0.06 U | 0.18 K |
| NICKEL | 0.94 B | 1.8 B | 2.9 L | 3 UL | 2.7 UL | 3 UL | 5.3 |
| POTASSIUM | 56.4 B | 130 | 28 | 59.6 | 107 | 116 | 383 |
| SELENIUM | 0.58 UJ | 0.57 UJ | 0.29 UJ | 0.32 UJ | 0.3 UJ | 0.32 UJ | 1.1 L |
| SILVER | 0.15 U | 0.14 U | 0.07 U | 0.08 U | 0.07 U | 0.44 | 0.08 UL |
| SODIUM | 35.7 B | 58.6 B | 20.2 B | 59.2 B | 43.2 B | 59.2 B | 56.3 B |
| THALLIUM | 1.2 U | 1.1 U | 0.25 U | 0.28 U | 0.26 U | 0.28 U | 0.28 U |
| VANADIUM | 8.8 | 11.6 | 2.2 | 15.7 | 12.2 | 11 | 36.1 J |
| ZINC | 7.2 J | 7.8 J | 0.67 U | 2.1 | 4 | 4.3 | 12.2 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 1,2-DICHLOROBENZENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 1,3-DICHLOROBENZENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 1,4-DICHLOROBENZENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2,4,5-TRICHLOROPHENOL | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| 2,4,6-TRICHLOROPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2,4-DICHLOROPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2,4-DIMETHYLPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2,4-DINITROPHENOL | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| 2,[illegible]-DINITROTOLUENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 |
| 2,[illegible]-DINITROTOLUENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1080200 | 4SU1090200 | 04-SB04-1214 | 04-SB05-0406 | 04-SB06-0408 | 04-SB07-1822 | 04-SB08-0809 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB108 | 4SB109 | 04SB04 | 04SB05 | 04SB06 | 04SB07 | 04SB08 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 3/29/95 | 3/29/95 | 3/29/95 | 3/29/95 | 3/28/95 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 12-14 | 4-6 | 4-8 | 18-22 | 8-9 |
| ASSOCIATED DUPLICATE: | | | | | | | 04-SB08-0809-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2-CHLOROPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2-METHYLNAPHTHALENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 2100 | 390 U |
| 2-METHYLPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 2-NITROANILINE | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| 2-NITROPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 3,3'-DICHLOROBENZIDINE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 3-NITROANILINE | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| 4,6-DINITRO-2-METHYLPHENOL | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| 4-BROMOPHENYL PHENYL ETHER | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 4-CHLORO-3-METHYLPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 4-CHLOROANILINE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 4-CHLOROPHENYL PHENYL ETHER | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 4-METHYLPHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| 4-NITROANILINE | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| 4-NITROPHENOL | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| ACENAPHTHENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| ACENAPHTHYLENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| ANTHRACENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BENZO(A)ANTHRACENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BENZO(A)PYRENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BENZO(B)FLUORANTHENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BENZO(G,H,I)PERYLENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BENZO(K)FLUORANTHENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BIS(2-CHLOROETHOXY)METHANE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BIS(2-CHLOROETHYL)ETHER | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| BUTYLBENZYL PHTHALATE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| CARBAZOLE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| CHRYSENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| DI-N-BUTYL PHTHALATE | 340 U | 340 U | 36 J | 36 UJ | 350 U | 390 U | 390 U |
| DI-N-OCTYL PHTHALATE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| DIBENZO(A,H)ANTHRACENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| DIBENZOFURAN | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| DIETHYL PHTHALATE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| DIMETHYL PHTHALATE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| FLUORANTHENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| FLUORENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1080200 | 4SU1090200 | 04-SB04-1214 | 04-SB05-0406 | 04-SB06-0408 | 04-SB07-1822 | 04-SB08-0809 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB108 | 4SB109 | 04SB04 | 04SB05 | 04SB06 | 04SB07 | 04SB08 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 3/29/95 | 3/29/95 | 3/29/95 | 3/29/95 | 3/28/95 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 12-14 | 4-6 | 4-8 | 18-22 | 8-9 |
| ASSOCIATED DUPLICATE: | | | | | | | 04-SB08-0809-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| HEXACHLOROBUTADIENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| HEXACHLOROCYCLOPENTADIENE | 340 U | 340 U | 350 UJ | 390 UJ | 350 UJ | 390 UJ | 390 U |
| HEXACHLOROETHANE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| INDENO(1,2,3-CD)PYRENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| ISOPHORONE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| N-NITROSO-DI-N-PROPYLAMINE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| N-NITROSODIPHENYLAMINE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| NAPHTHALENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 290 J | 390 U |
| NITROBENZENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| PENTACHLOROPHENOL | 830 U | 820 U | 870 U | 970 UJ | 890 U | 970 U | 970 U |
| PHENANTHRENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 1100 | 390 U |
| PHENOL | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| PYRENE | 340 U | 340 U | 350 U | 390 UJ | 350 U | 390 U | 390 U |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,1-DICHLOROETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,1-DICHLOROETHENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,2-DICHLOROETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 1,2-DICHLOROPROPANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 2-BUTANONE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 2-HEXANONE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| 4-METHYL-2-PENTANONE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| ACETONE | 10 U | 10 U | 10 U | 12 U | 7 J | 58 U | 12 U |
| BENZENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| BROMODICHLOROMETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| BROMOFORM | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| BROMOMETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| CARBON DISULFIDE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| CARBON TETRACHLORIDE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| CHLOROBENZENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| CHLORODIBROMOMETHANE | 10 U | 10 U | N/A | N/A | N/A | N/A | N/A |
| CHLOROETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| [illegible]ROFORM | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 [illegible] |
| [illegible]ROMETHANE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 [illegible] |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 4SU1080200 | 4SU1090200 | 04-SB04-1214 | 04-SB05-0406 | 04-SB06-0408 | 04-SB07-1822 | 04-SB08-0809 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 4SB108 | 4SB109 | 04SB04 | 04SB05 | 04SB06 | 04SB07 | 04SB08 |
| SAMPLE DATE: | 11/19/98 | 11/19/98 | 3/29/95 | 3/29/95 | 3/29/95 | 3/29/95 | 3/28/95 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 12-14 | 4-6 | 4-8 | 18-22 | 8-9 |
| ASSOCIATED DUPLICATE: | | | | | | | 04-SB08-0809-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| ETHYLBENZENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| METHYLENE CHLORIDE | 10 U | 10 U | 2 B | 15 B | 7 B | 10 B | 7 B |
| STYRENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| TETRACHLOROETHENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| TOLUENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| TRICHLOROETHENE | 10 U | 10 U | 10 U | 12 U | 11 U | 6 J | 12 U |
| VINYL CHLORIDE | 10 U | 10 U | 10 U | 12 U | 11 U | 58 U | 12 U |
| XYLENES, TOTAL | 10 U | 10 U | 3 J | 12 U | 11 U | 58 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | 0.18 R | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDE | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDT | 0.28 R | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| ALDRIN | 0.046 R | 0.063 R | N/A | N/A | N/A | N/A | N/A |
| ALPHA-BHC | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| ALPHA-CHLORDANE | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1016 | 34 U | 34 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1221 | 69 U | 68 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1232 | 34 U | 34 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1242 | 34 U | 34 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1248 | 34 U | 34 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1254 | 34 U | 34 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1260 | 34 U | 34 U | N/A | N/A | N/A | N/A | N/A |
| BETA-BHC | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| DELTA-BHC | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| DIELDRIN | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN I | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN II | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| ENDRIN | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| ENDRIN KETONE | 3.4 U | 3.4 U | N/A | N/A | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| GAMMA-CHLORDANE | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR | 0.073 R | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR EPOXIDE | 1.7 U | 1.7 U | N/A | N/A | N/A | N/A | N/A |
| METHOXYCHLOR | 17 U | 17 U | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | | 4SU1080200 | 4SU1090200 | 04-SB04-1214 | 04-SB05-0406 | 04-SB06-0408 | 04-SB07-1822 | 04-SB08-0809 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | | 4SB108 | 4SB109 | 04SB04 | 04SB05 | 04SB06 | 04SB07 | 04SB08 |
| SAMPLE DATE: | | 11/19/98 | 11/19/98 | 3/29/95 | 3/29/95 | 3/29/95 | 3/29/95 | 3/28/95 |
| DEPTH INTERVAL (FEET): | | 2-4 | 2-4 | 12-14 | 4-6 | 4-8 | 18-22 | 8-9 |
| ASSOCIATED DUPLICATE: | | | | | | | | 04-SB08-0809-D |
| VALIDATION STATUS: | | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | | 170 U | 170 U | N/A | N/A | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | | 0.25 U | 0.25 U | 0.0402 U | 0.0402 U | N/A | 0.0402 U | 0.0402 U |
| 1,3-DINITROBENZENE | | 0.25 U | 0.25 U | 0.03721 U | 0.03721 U | N/A | 0.03721 U | 0.03721 U |
| 2,4 DINITROTOLUENE | | 0.25 U | 0.25 U | 0.05157 U | 0.05157 U | N/A | 0.05157 U | 0.05157 U |
| 2,4,6-TRINITROTOLUENE | | 0.25 U | 0.25 U | 0.03559 U | 0.03559 U | N/A | 0.03559 U | 0.03559 U |
| 2,6 DINITROTOLUENE | | 0.25 U | 0.25 U | 0.04765 U | 0.04765 U | N/A | 0.04765 U | 0.04765 U |
| 2-AMINO-4,6-DINITROTOLUENE | | 0.25 U | 0.25 U | 0.04667 U | 0.04667 U | N/A | 0.04667 U | 0.04667 U |
| 2-NITROTOLUENE | | 0.25 U | 0.25 U | 0.08139 U | 0.08139 U | N/A | 0.08139 U | 0.08139 U |
| 3-NITROTOLUENE | | 0.25 U | 0.25 U | 0.08179 U | 0.08179 U | N/A | 0.08179 U | 0.08179 U |
| 4-AMINO-2,6-DINITROTOLUENE | | 0.25 U | 0.25 U | 0.04085 U | 0.04085 U | N/A | 0.04085 U | 0.04085 U |
| 4-NITROTOLUENE | | 0.25 U | 0.25 U | 0.08725 U | 0.08725 U | N/A | 0.08725 U | 0.08725 U |
| HMX | | 0.5 U | 0.5 U | 0.07049 U | 0.07049 U | N/A | 0.07049 U | 0.07049 U |
| NITROBENZENE | | 0.25 U | 0.25 U | 0.03521 U | 0.03521 U | N/A | 0.03521 U | 0.03521 U |
| RDX | | 0.5 U | 0.5 U | 0.0509 U | 0.0509 U | N/A | 0.0509 U | 0.0509 U |
| TETRYL | | 0.65 U | 0.65 U | 0.16265 U | 0.16265 U | N/A | 0.16265 U | 0.16265 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE | mg/kg | 50 UL | N/A | N/A | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) | mg/kg | 21 U | N/A | N/A | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND | mg/L | 10 U | N/A | N/A | N/A | N/A | N/A | N/A |
| FERROUS IRON | mg/kg | 20.7 UR | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM | mg/kg | 0.21 B | N/A | N/A | N/A | N/A | N/A | N/A |
| PH | | 5.2 | N/A | 5.1 | 4.61 | 4.47 | 5.4 | 4.95 |
| TOTAL KJELDAHL NITROGEN | mg/kg | N/A | N/A | 8.6 | 221 | 25.5 | 31 | 124 |
| TOTAL ORGANIC CARBON | mg/kg | 520 | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB08-0809-D | 04-SB09-0809 | 04-SB10-0708 | 04-SB11-0809 | 04-SB12-1012 | 04-SB13-0506 | 04-SB14-0506 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB08 | 04SB09 | 04SB10 | 04SB11 | 04SB12 | 04SB13 | 04SB14 |
| SAMPLE DATE: | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/29/95 |
| DEPTH INTERVAL (FEET): | 8-9 | 8-9 | 7-8 | 8-9 | 10-12 | 5-6 | 5-6 |
| ASSOCIATED DUPLICATE: | 04-SB08-0809 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 12400 J | 13400 J | 11200 J | 5670 J | 4880 J | 8560 | N/A |
| ANTIMONY | 0.26 U | 0.33 | 0.29 | 3.4 | 0.24 U | 3.2 B | N/A |
| ARSENIC | 2.8 L | 2 L | 2 L | 1.7 L | 0.89 L | 3.2 B | N/A |
| BARIUM | 28.2 | 44.7 | 55.6 | 48.7 | 7.1 | 89.3 | N/A |
| BERYLLIUM | 0.33 B | 0.42 | 0.44 | 0.26 B | 0.11 B | 0.54 B | N/A |
| CADMIUM | 0.52 J | 0.29 J | 0.53 J | 1.4 J | 0.45 J | 2.4 B | N/A |
| CALCIUM | 142 J | 109 J | 371 J | 51200 J | 42.5 B | 11500 | N/A |
| CHROMIUM | 16.2 J | 17.7 J | 14.9 J | 15.5 J | 9.2 J | 23.9 | N/A |
| COBALT | 2.3 | 4.2 | 3.8 | 3.8 | 1.5 U | 6.6 | N/A |
| COPPER | 10 J | 13.7 J | 8.5 J | 130 J | 7.2 J | 743 | N/A |
| CYANIDE | 1.2 U | 2.1 | 1.2 U | 1.2 U | 1.1 U | 1.3 U | N/A |
| IRON | 19800 J | 17800 J | 12300 J | 12500 J | 4730 J | 23300 J | N/A |
| LEAD | 2.7 | 2.1 | 1.8 | 85.7 | 3 | 242 J | N/A |
| MAGNESIUM | 528 J | 1080 J | 1130 J | 4750 J | 149 J | 2300 | N/A |
| MANGANESE | 67.8 J | 72.5 J | 68.5 J | 136 J | 12.8 J | 444 | N/A |
| MERCURY | 0.14 K | 0.57 K | 0.12 K | 0.77 K | 0.15 K | 6.1 | N/A |
| NICKEL | 5 | 8.2 | 5.7 | 11.2 | 1.9 U | 17.4 | N/A |
| POTASSIUM | 300 | 501 | 452 | 351 | 160 B | 753 | N/A |
| SELENIUM | 1.1 L | 0.49 L | 0.45 L | 0.34 UL | 0.31 UL | 0.37 UL | N/A |
| SILVER | 0.08 UL | 0.08 UL | 0.08 UL | 2.4 L | 0.08 UL | 7.1 J | N/A |
| SODIUM | 56.7 B | 46 B | 57.9 B | 82.9 B | 52.7 B | 30.1 | N/A |
| THALLIUM | 0.28 U | 0.29 U | 0.29 U | 0.29 U | 0.26 U | 0.32 U | N/A |
| VANADIUM | 32.7 J | 31.8 J | 22.4 J | 18.4 J | 11.7 J | 20.3 | N/A |
| ZINC | 10.4 J | 20.5 J | 20.7 J | 372 J | 3.8 J | 517 J | N/A |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 1,2-DICHLOROBENZENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 1,3-DICHLOROBENZENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 1,4-DICHLOROBENZENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 2,4,5-TRICHLOROPHENOL | 980 U | 1020 U | 1000 U | 1200 UJ | 910 UJ | 1100 U | 960 U |
| 2,4,6-TRICHLOROPHENOL | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| 2,4-DICHLOROPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 2,4-DIMETHYLPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 2,4-DINITROPHENOL | 980 U | 1020 U | 1000 U | 1200 UJ | 910 UJ | 1100 U | 960 U |
| 2,4-DINITROTOLUENE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| 2,6-DINITROTOLUENE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB08-0809-D | 04-SB09-0809 | 04-SB10-0708 | 04-SB11-0809 | 04-SB12-1012 | 04-SB13-0506 | 04-SB14-0506 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB08 | 04SB09 | 04SB10 | 04SB11 | 04SB12 | 04SB13 | 04SB14 |
| SAMPLE DATE: | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/29/95 |
| DEPTH INTERVAL (FEET): | 8-9 | 8-9 | 7-8 | 8-9 | 10-12 | 5-6 | 5-6 |
| ASSOCIATED DUPLICATE: | 04-SB08-0809 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| 2-CHLOROPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 2-METHYLNAPHTHALENE | 390 U | 410 U | 140 J | 18000 | 360 U | 440 U | 380 U |
| 2-METHYLPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 2-NITROANILINE | 980 U | 1020 U | 1000 U | 1200 UJ | 910 UJ | 1100 U | 960 U |
| 2-NITROPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 3,3'-DICHLOROBENZIDINE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 3-NITROANILINE | 980 U | 1020 U | 1000 U | 1200 UJ | 910 UJ | 1100 U | 960 U |
| 4,6-DINITRO-2-METHYLPHENOL | 980 U | 1020 U | 1000 U | 1200 UJ | 910 U | 1100 U | 960 U |
| 4-BROMOPHENYL PHENYL ETHER | 390 U | 410 U | 400 U | 400 UJ | 360 U | 440 U | 380 U |
| 4-CHLORO-3-METHYLPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 4-CHLOROANILINE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 4-CHLOROPHENYL PHENYL ETHER | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| 4-METHYLPHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| 4-NITROANILINE | 980 U | 1020 U | 1000 U | 1200 UJ | 910 UJ | 1100 U | 960 U |
| 4-NITROPHENOL | 980 U | 1020 U | 1000 U | 1200 UJ | 910 UJ | 1100 U | 960 U |
| ACENAPHTHENE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| ACENAPHTHYLENE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| ANTHRACENE | 390 U | 410 U | 400 U | 840 J | 360 U | 440 U | 380 U |
| BENZO(A)ANTHRACENE | 390 U | 410 U | 400 U | 550 | 360 U | 310 J | 380 U |
| BENZO(A)PYRENE | 390 U | 410 U | 400 U | 670 | 360 U | 340 J | 380 U |
| BENZO(B)FLUORANTHENE | 390 U | 410 U | 400 U | 380 J | 360 U | 250 J | 380 U |
| BENZO(G,H,I)PERYLENE | 390 U | 410 U | 400 U | 410 | 360 U | 220 J | 380 U |
| BENZO(K)FLUORANTHENE | 390 U | 410 U | 400 U | 550 | 360 U | 370 J | 380 U |
| BIS(2-CHLOROETHOXY)METHANE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| BIS(2-CHLOROETHYL)ETHER | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 390 U | 410 U | 400 U | 1200 | 360 U | 440 U | 380 U |
| BUTYLBENZYL PHTHALATE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| CARBAZOLE | 390 U | 410 U | 400 U | 180 J | 360 U | 440 U | 380 U |
| CHRYSENE | 390 U | 410 U | 400 U | 800 | 360 U | 330 J | 380 U |
| DI-N-BUTYL PHTHALATE | 109 J | 410 U | 400 U | 400 UJ | 360 U | 107 B | 58 J |
| DI-N-OCTYL PHTHALATE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| DIBENZO(A,H)ANTHRACENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| DIBENZOFURAN | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| DIETHYL PHTHALATE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| DIMETHYL PHTHALATE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 U |
| FLU[illegible]THENE | 390 U | 410 U | 400 U | 1600 J | 360 U | 520 | 3[illegible] |
| FLU[illegible]E | 390 U | 410 U | 400 U | 1300 J | 360 UJ | 440 U | 3[illegible] |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB08-0809-D | 04-SB09-0809 | 04-SB10-0708 | 04-SB11-0809 | 04-SB12-1012 | 04-SB13-0506 | 04-SB14-0506 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB08 | 04SB09 | 04SB10 | 04SB11 | 04SB12 | 04SB13 | 04SB14 |
| SAMPLE DATE: | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/29/95 |
| DEPTH INTERVAL (FEET): | 8-9 | 8-9 | 7-8 | 8-9 | 10-12 | 5-6 | 5-6 |
| ASSOCIATED DUPLICATE: | 04-SB08-0809 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 390 U | 410 U | 400 U | 400 UJ | 360 U | 440 U | 380 U |
| HEXACHLOROBUTADIENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| HEXACHLOROCYCLOPENTADIENE | 390 U | 410 U | 400 U | 400 UJ | 360 UJ | 440 U | 380 UJ |
| HEXACHLOROETHANE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| INDENO(1,2,3-CD)PYRENE | 390 U | 410 U | 400 U | 400 U | 360 U | 140 J | 380 U |
| ISOPHORONE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| N-NITROSO-DI-N-PROPYLAMINE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| N-NITROSODIPHENYLAMINE | 390 U | 410 U | 400 U | 400 UJ | 360 U | 440 U | 380 U |
| NAPHTHALENE | 390 U | 410 U | 40 J | 3200 | 360 U | 440 U | 380 U |
| NITROBENZENE | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| PENTACHLOROPHENOL | 980 U | 1020 U | 1000 U | 1200 UJ | 910 U | 1100 U | 960 U |
| PHENANTHRENE | 390 U | 410 U | 400 U | 6000 J | 360 U | 440 U | 380 U |
| PHENOL | 390 U | 410 U | 400 U | 400 U | 360 U | 440 U | 380 U |
| PYRENE | 390 U | 410 U | 400 U | 1400 | 360 U | 510 | 380 U |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 6 J | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,1-DICHLOROETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,1-DICHLOROETHENE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,2-DICHLOROETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 1,2-DICHLOROPROPANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 2-BUTANONE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 2-HEXANONE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| 4-METHYL-2-PENTANONE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| ACETONE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| BENZENE | 12 U | 6 J | 1 J | 19 J | 11 U | 13 U | 11 U |
| BROMODICHLOROMETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| BROMOFORM | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| BROMOMETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| CARBON DISULFIDE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| CARBON TETRACHLORIDE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| CHLOROBENZENE | 12 U | 12 U | 6 J | 46 J | 11 U | 13 U | 11 U |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| CHLOROFORM | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| CHLOROMETHANE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB08-0809-D | 04-SB09-0809 | 04-SB10-0708 | 04-SB11-0809 | 04-SB12-1012 | 04-SB13-0506 | 04-SB14-0506 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB08 | 04SB09 | 04SB10 | 04SB11 | 04SB12 | 04SB13 | 04SB14 |
| SAMPLE DATE: | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/29/95 |
| DEPTH INTERVAL (FEET): | 8-9 | 8-9 | 7-8 | 8-9 | 10-12 | 5-6 | 5-6 |
| ASSOCIATED DUPLICATE: | 04-SB08-0809 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| ETHYLBENZENE | 12 U | 12 U | 12 U | 60 U | 2 J | 13 U | 11 U |
| METHYLENE CHLORIDE | 6 B | 7 B | 7 B | 10 B | 8 B | 13 U | 6 B |
| STYRENE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| TETRACHLOROETHENE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| TOLUENE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| TRICHLOROETHENE | 12 U | 12 U | 12 U | 60 U | 1 J | 2 J | 11 U |
| VINYL CHLORIDE | 12 U | 12 U | 12 U | 60 U | 11 U | 13 U | 11 U |
| XYLENES, TOTAL | 12 U | 5 J | 4 J | 60 U | 11 U | 13 U | 11 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDT | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1016 | N/A | 40 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1221 | N/A | 81 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1232 | N/A | 40 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1242 | N/A | 40 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1248 | N/A | 40 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1254 | N/A | 40 U | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1260 | N/A | 249 | N/A | N/A | N/A | N/A | N/A |
| BETA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DELTA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIELDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN I | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN II | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN KETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEF[illegible]LOR EPOXIDE | N/A | N/A | N/A | N/A | N/A | N/A | [illegible] |
| MET[illegible]YCHLOR | N/A | N/A | N/A | N/A | N/A | N/A | [illegible] |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB08-0809-D | 04-SB09-0809 | 04-SB10-0708 | 04-SB11-0809 | 04-SB12-1012 | 04-SB13-0506 | 04-SB14-0506 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB08 | 04SB09 | 04SB10 | 04SB11 | 04SB12 | 04SB13 | 04SB14 |
| SAMPLE DATE: | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/29/95 |
| DEPTH INTERVAL (FEET): | 8-9 | 8-9 | 7-8 | 8-9 | 10-12 | 5-6 | 5-6 |
| ASSOCIATED DUPLICATE: | 04-SB08-0809 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.0402 U | 0.0402 U | 0.0402 U | 0.0402 U | 0.0402 U | 0.0402 UJ | 0.0402 U |
| 1,3-DINITROBENZENE | 0.03721 U | 0.03721 U | 0.03721 U | 0.03721 U | 0.03721 U | 0.03721 UJ | 0.03721 U |
| 2,4 DINITROTOLUENE | 0.05157 U | 0.05157 U | 0.05157 U | 0.05157 U | 0.05157 U | 0.05157 UJ | 0.05157 U |
| 2,4,6-TRINITROTOLUENE | 0.03559 U | 0.03559 U | 0.03559 U | 0.03559 U | 0.03559 U | 0.03559 UJ | 0.03559 U |
| 2,6 DINITROTOLUENE | 0.04765 U | 0.04765 U | 0.04765 U | 0.04765 U | 0.04765 U | 0.04765 UJ | 0.04765 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.04667 U | 0.04667 U | 0.04667 U | 0.04667 U | 0.04667 U | 0.04667 UJ | 0.04667 U |
| 2-NITROTOLUENE | 0.08139 U | 0.08139 U | 0.08139 U | 0.08139 U | 0.08139 U | 0.08139 UJ | 0.08139 U |
| 3-NITROTOLUENE | 0.08179 U | 0.08179 U | 0.08179 U | 0.08179 U | 0.08179 U | 0.08179 UJ | 0.08179 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.04085 U | 0.04085 U | 0.04085 U | 0.04085 U | 0.04085 U | 0.04085 UJ | 0.04085 U |
| 4-NITROTOLUENE | 0.08725 U | 0.08725 U | 0.08725 U | 0.08725 U | 0.08725 U | 0.08725 UJ | 0.08725 U |
| HMX | 0.07049 U | 0.07049 U | 0.07049 U | 0.07049 U | 0.07049 U | 0.07049 UJ | 0.07049 U |
| NITROBENZENE | 0.03521 U | 0.03521 U | 0.03521 U | 0.03521 U | 0.03521 U | 0.03521 UJ | 0.03521 U |
| RDX | 0.0509 U | 0.0509 U | 0.0509 U | 0.0509 U | 0.0509 U | 0.0509 UJ | 0.0509 U |
| TETRYL | 0.16265 U | 0.16265 U | 0.16265 U | 0.16265 U | 0.16265 U | 0.16265 UJ | 0.16265 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PH | 5.04 | 5.71 | 5.9 | 6.75 | 5.53 | 7.48 | 4.91 |
| TOTAL KJELDAHL NITROGEN mg/kg | 146 | 169 | 399 | 278 | 66.6 | 235 | 50.6 |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB15-0812 | 04-SB16-1012 | 04-SB17-1214 | 04-SB18-1012 | 04-SB19-1012 | 04-SB20-0607 | 04-SB20-0607-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB15 | 04SB16 | 04SB17 | 04SB18 | 04SB19 | 04SB20 | 04SB20 |
| SAMPLE DATE: | 3/29/95 | 3/24/95 | 3/24/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/24/95 |
| DEPTH INTERVAL (FEET): | 8-12 | 10-12 | 12-14 | 10-12 | 10-12 | 6-7 | 6-7 |
| ASSOCIATED DUPLICATE: | | | | | | 04-SB20-0607-D | 04-SB20-0607 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 6750 J | 1800 | 2110 | 2550 J | 1180 J | 5820 | 5300 |
| ANTIMONY | 0.37 B | 0.38 B | 0.32 B | 0.24 U | 0.24 U | 0.32 B | 0.24 UL |
| ARSENIC | 1.7 | 0.78 B | 1 B | 0.19 UL | 0.19 UL | 1.9 B | 1.7 B |
| BARIUM | 21.5 | 5.3 B | 6.3 | 175 | 1 U | 11.1 | 10.8 |
| BERYLLIUM | 0.96 B | 0.23 B | 0.31 B | 0.07 U | 0.1 B | 0.43 B | 0.47 B |
| CADMIUM | 0.73 UL | 0.51 U | 0.53 U | 0.61 J | 0.37 J | 0.53 U | 0.51 U |
| CALCIUM | 1310 | 32.5 B | 43.3 B | 35.1 B | 15.8 B | 46.6 B | 58.4 B |
| CHROMIUM | 20.8 | 4.1 | 31.2 | 6.9 J | 15.2 J | 11.6 | 10.6 |
| COBALT | 6.1 B | 3.1 U | 3.2 U | 1.5 U | 1.5 U | 3.2 U | 3 U |
| COPPER | 11.7 | 8.7 B | 6.7 B | 6.7 J | 5.5 J | 11.2 B | 10.5 B |
| CYANIDE | 1.1 U | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| IRON | 9010 J | 2030 J | 2170 J | 3380 J | 1410 J | 6670 J | 5370 J |
| LEAD | 4.3 | 1.4 B | 3.1 J | 1.6 | 0.75 | 3.8 J | 4.9 J |
| MAGNESIUM | 290 L | 103 | 35.7 | 172 J | 40.4 J | 136 | 133 |
| MANGANESE | 27.9 | 1.8 L | 1.4 L | 5.9 J | 3.2 J | 7 | 6.8 |
| MERCURY | 0.1 K | 0.15 B | 0.18 B | 0.05 U | 0.05 U | 0.2 B | 0.2 B |
| NICKEL | 9.9 | 3.8 U | 4 U | 1.9 U | 1.9 U | 6.2 | 6.8 |
| POTASSIUM | 233 | 63 | 79.9 | 135 B | 67.7 B | 188 | 234 |
| SELENIUM | 0.44 J | 0.31 UL | 0.33 UL | 0.31 UL | 0.31 UL | 0.32 UL | 0.31 UL |
| SILVER | 0.08 U | 0.08 UJ | 0.08 UJ | 0.08 UL | 0.08 UL | 0.17 J | 0.08 UJ |
| SODIUM | 68.2 B | 16.9 U | 17.7 U | 53.4 B | 30.3 B | 17.4 U | 16.7 U |
| THALLIUM | 0.27 U | 0.27 U | 0.28 U | 0.27 U | 0.26 U | 0.27 U | 0.26 U |
| VANADIUM | 20.6 | 5.2 | 23.3 | 8.9 J | 5 J | 41.5 | 48.2 |
| ZINC | 9.1 | 1.4 U | 1.4 U | 2.9 J | 3.2 J | 3.9 B | 3.8 B |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 1,2-DICHLOROBENZENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 1,3-DICHLOROBENZENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 1,4-DICHLOROBENZENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2,4,5-TRICHLOROPHENOL | 930 U | 930 U | 970 U | 930 U | 920 U | 950 U | 920 U |
| 2,4,6-TRICHLOROPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2,4-DICHLOROPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2,4-DIMETHYLPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2,4-DINITROPHENOL | 930 U | 930 U | 970 U | 930 U | 920 U | 950 U | 920 U |
| 2,4-[illegible]ROTOLUENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 37[illegible] |
| 2,6-[illegible]ROTOLUENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 37[illegible] |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB15-0812 | 04-SB16-1012 | 04-SB17-1214 | 04-SB18-1012 | 04-SB19-1012 | 04-SB20-0607 | 04-SB20-0607-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB15 | 04SB16 | 04SB17 | 04SB18 | 04SB19 | 04SB20 | 04SB20 |
| SAMPLE DATE: | 3/29/95 | 3/24/95 | 3/24/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/24/95 |
| DEPTH INTERVAL (FEET): | 8-12 | 10-12 | 12-14 | 10-12 | 10-12 | 6-7 | 6-7 |
| ASSOCIATED DUPLICATE: | | | | | | 04-SB20-0607-D | 04-SB20-0607 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2-CHLOROPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2-METHYLNAPHTHALENE | 370 U | 370 U | 480 | 370 U | 370 U | 800 | 570 |
| 2-METHYLPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 2-NITROANILINE | 930 U | 930 U | 970 U | 930 U | 920 U | 950 U | 920 U |
| 2-NITROPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 3,3'-DICHLOROBENZIDINE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 3-NITROANILINE | 930 U | 930 U | 970 U | 930 U | 920 U | 950 U | 920 U |
| 4,6-DINITRO-2-METHYLPHENOL | 930 U | 930 U | 970 U | 930 U | 920 U | 950 UJ | 920 U |
| 4-BROMOPHENYL PHENYL ETHER | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| 4-CHLORO-3-METHYLPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 4-CHLOROANILINE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 4-CHLOROPHENYL PHENYL ETHER | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 4-METHYLPHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| 4-NITROANILINE | 930 U | 930 U | 970 U | 930 U | 920 U | 950 U | 920 U |
| 4-NITROPHENOL | 930 U | 930 U | 970 U | 930 U | 920 U | 950 U | 920 U |
| ACENAPHTHENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| ACENAPHTHYLENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| ANTHRACENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| BENZO(A)ANTHRACENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BENZO(A)PYRENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BENZO(B)FLUORANTHENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BENZO(G,H,I)PERYLENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BENZO(K)FLUORANTHENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BIS(2-CHLOROETHOXY)METHANE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BIS(2-CHLOROETHYL)ETHER | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 370 U | 370 U | 390 U | 38 J | 370 U | 380 U | 370 U |
| BUTYLBENZYL PHTHALATE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| CARBAZOLE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| CHRYSENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| DI-N-BUTYL PHTHALATE | 47 J | 79 B | 120 B | 370 U | 370 U | 380 UJ | 370 U |
| DI-N-OCTYL PHTHALATE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| DIBENZO(A,H)ANTHRACENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| DIBENZOFURAN | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| DIETHYL PHTHALATE | 3800 | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| DIMETHYL PHTHALATE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| FLUORANTHENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| FLUORENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB15-0812 | 04-SB16-1012 | 04-SB17-1214 | 04-SB18-1012 | 04-SB19-1012 | 04-SB20-0607 | 04-SB20-0607-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB15 | 04SB16 | 04SB17 | 04SB18 | 04SB19 | 04SB20 | 04SB20 |
| SAMPLE DATE: | 3/29/95 | 3/24/95 | 3/24/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/24/95 |
| DEPTH INTERVAL (FEET): | 8-12 | 10-12 | 12-14 | 10-12 | 10-12 | 6-7 | 6-7 |
| ASSOCIATED DUPLICATE: | | | | | | 04-SB20-0607-D | 04-SB20-0607 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| HEXACHLOROBUTADIENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| HEXACHLOROCYCLOPENTADIENE | 370 UJ | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| HEXACHLOROETHANE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| INDENO(1,2,3-CD)PYRENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| ISOPHORONE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| N-NITROSO-DI-N-PROPYLAMINE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| N-NITROSODIPHENYLAMINE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| NAPHTHALENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| NITROBENZENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| PENTACHLOROPHENOL | 930 U | 930 U | 970 U | 930 U | 920 U | 950 UJ | 920 U |
| PHENANTHRENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 UJ | 370 U |
| PHENOL | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| PYRENE | 370 U | 370 U | 390 U | 370 U | 370 U | 380 U | 370 U |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 11 U | 20 J | 11 U | 11 U | 57 U | 55 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 6 J | 13000 | 11 U | 6 J | 38 J | 55 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 11 U | 20 J | 11 U | 11 U | 57 U | 55 U |
| 1,1-DICHLOROETHANE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| 1,1-DICHLOROETHENE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| 1,2-DICHLOROETHANE | 11 U | 11 U | 130 | 11 U | 11 U | 57 U | 55 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 11 U | 42 J | 11 U | 11 U | 57 U | 55 U |
| 1,2-DICHLOROPROPANE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| 2-BUTANONE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| 2-HEXANONE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| 4-METHYL-2-PENTANONE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| ACETONE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| BENZENE | 11 U | 11 U | 31 J | 11 U | 11 U | 57 U | 55 U |
| BROMODICHLOROMETHANE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| BROMOFORM | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| BROMOMETHANE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| CARBON DISULFIDE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| CARBON TETRACHLORIDE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| CHLOROBENZENE | 11 U | 11 U | 46 J | 11 U | 11 U | 57 U | 55 U |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROETHANE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| CH[illegible]FORM | 11 U | 11 U | 58 U | 11 U | 11 U | 31 J | 2[illegible] |
| CHL[illegible]METHANE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 5[illegible] |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB15-0812 | 04-SB16-1012 | 04-SB17-1214 | 04-SB18-1012 | 04-SB19-1012 | 04-SB20-0607 | 04-SB20-0607-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB15 | 04SB16 | 04SB17 | 04SB18 | 04SB19 | 04SB20 | 04SB20 |
| SAMPLE DATE: | 3/29/95 | 3/24/95 | 3/24/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/24/95 |
| DEPTH INTERVAL (FEET): | 8-12 | 10-12 | 12-14 | 10-12 | 10-12 | 6-7 | 6-7 |
| ASSOCIATED DUPLICATE: | | | | | | 04-SB20-0607-D | 04-SB20-0607 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| ETHYLBENZENE | 11 U | 11 U | 93 | 11 U | 11 U | 11 J | 10 J |
| METHYLENE CHLORIDE | 14 B | 11 U | 40 B | 5 B | 4 B | 38 B | 40 B |
| STYRENE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| TETRACHLOROETHENE | 11 U | 11 U | 130 | 11 U | 11 U | 57 U | 6 J |
| TOLUENE | 11 U | 11 U | 530 | 11 U | 11 U | 10 J | 9 J |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| TRICHLOROETHENE | 11 U | 3 J | 3200 | 11 U | 46 | 4400 | 2600 |
| VINYL CHLORIDE | 11 U | 11 U | 58 U | 11 U | 11 U | 57 U | 55 U |
| XYLENES, TOTAL | 11 U | 11 U | 800 | 11 U | 11 U | 93 | 101 |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDT | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1016 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1221 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1232 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1242 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1248 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1254 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1260 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BETA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DELTA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIELDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN I | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN II | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN KETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR EPOXIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| METHOXYCHLOR | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB15-0812 | 04-SB16-1012 | 04-SB17-1214 | 04-SB18-1012 | 04-SB19-1012 | 04-SB20-0607 | 04-SB20-0607-D |
|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB15 | 04SB16 | 04SB17 | 04SB18 | 04SB19 | 04SB20 | 04SB20 |
| SAMPLE DATE: | 3/29/95 | 3/24/95 | 3/24/95 | 3/28/95 | 3/28/95 | 3/24/95 | 3/24/95 |
| DEPTH INTERVAL (FEET): | 8-12 | 10-12 | 12-14 | 10-12 | 10-12 | 6-7 | 6-7 |
| ASSOCIATED DUPLICATE: | | | | | | 04-SB20-0607-D | 04-SB20-0607 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.0402 U | 0.0402 UJ | 0.0402 UJ | 0.0402 U | 0.0402 U | 0.0402 U | 0.0402 UJ |
| 1,3-DINITROBENZENE | 0.03721 U | 0.03721 UJ | 0.03721 UJ | 0.03721 U | 0.03721 U | 0.03721 U | 0.03721 UJ |
| 2,4 DINITROTOLUENE | 0.05157 U | 0.05157 UJ | 0.05157 UJ | 0.05157 U | 0.05157 U | 0.05157 U | 0.05157 UJ |
| 2,4,6-TRINITROTOLUENE | 0.03559 U | 0.03559 UJ | 0.03559 UJ | 0.03559 U | 0.03559 U | 0.03559 U | 0.03559 UJ |
| 2,6 DINITROTOLUENE | 0.04765 U | 0.04765 UJ | 0.04765 UJ | 0.04765 U | 0.04765 U | 0.04765 U | 0.04765 UJ |
| 2-AMINO-4,6-DINITROTOLUENE | 0.04667 U | 0.04667 UJ | 0.04667 UJ | 0.04667 U | 0.04667 U | 0.04667 U | 0.04667 UJ |
| 2-NITROTOLUENE | 0.08139 U | 0.08139 UJ | 0.08139 UJ | 0.08139 U | 0.08139 U | 0.08139 U | 0.08139 UJ |
| 3-NITROTOLUENE | 0.08179 U | 0.08179 UJ | 0.08179 UJ | 0.08179 U | 0.08179 U | 0.08179 U | 0.08179 UJ |
| 4-AMINO-2,6-DINITROTOLUENE | 0.04085 U | 0.04085 UJ | 0.04085 UJ | 0.04085 U | 0.04085 U | 0.04085 U | 0.04085 UJ |
| 4-NITROTOLUENE | 0.08725 U | 0.08725 UJ | 0.08725 UJ | 0.08725 U | 0.08725 U | 0.08725 U | 0.08725 UJ |
| HMX | 0.07049 U | 0.07049 UJ | 0.07049 UJ | 0.07049 U | 0.07049 U | 0.07049 U | 0.07049 UJ |
| NITROBENZENE | 0.03521 U | 0.03521 UJ | 0.03521 UJ | 0.03521 U | 0.03521 U | 0.03521 U | 0.03521 UJ |
| RDX | 0.0509 U | 0.0509 UJ | 0.0509 UJ | 0.0509 U | 0.0509 U | 0.0509 U | 0.0509 UJ |
| TETRYL | 0.16265 U | 0.16265 UJ | 0.16265 UJ | 0.16265 U | 0.16265 U | 0.16265 U | 0.16265 UJ |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PH | 5.49 | 5.05 | 4.55 | 5.93 | 4.54 | 4.61 | 4.61 |
| TOTAL KJELDAHL NITROGEN mg/kg | 40.3 | 12.8 | 31.7 | 19.1 | 41.8 | 73.6 | 57.8 |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-21 | 04-SB-22 | 04-SB-22-D | 04-SB-23 | 04-SB-24 | 04-SB-25 | 04-SB-26 | 04-SB-26-D |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB21 | 04SB22 | 04SB22 | 04SB23 | 04SB24 | 04SB25 | 04SB26 | 04SB26 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 | 16-18 | 16-18 | 14-16 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | 04-SB-22-D | 04-SB-22 | | | | 04-SB-26-D | 04-SB-26 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 1340 | 3210 | 3440 | 886 | 5380 | N/A | N/A | N/A |
| ANTIMONY | 0.2 UL | 0.19 UL | 0.19 UL | 0.18 UL | 0.19 UL | N/A | N/A | N/A |
| ARSENIC | 0.21 UL | 0.35 L | 0.2 UL | 0.19 UL | 0.63 L | N/A | N/A | N/A |
| BARIUM | 3.1 | 4.4 | 5.1 | 2.2 U | 7.5 | N/A | N/A | N/A |
| BERYLLIUM | 0.13 UL | 0.12 UL | 0.12 UL | 0.12 UL | 0.12 UL | N/A | N/A | N/A |
| CADMIUM | 0.35 UL | 0.33 UL | 0.33 UL | 0.32 UL | 0.33 UL | N/A | N/A | N/A |
| CALCIUM | 41.2 B | 55.4 B | 54.9 B | 28.6 B | 77 B | N/A | N/A | N/A |
| CHROMIUM | 2.9 | 5.2 | 5.8 | 2.5 | 8.9 | N/A | N/A | N/A |
| COBALT | 1.5 U | 1.5 | 1.4 U | 1.5 B | 2.4 | N/A | N/A | N/A |
| COPPER | 2.7 UL | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UL | N/A | N/A | N/A |
| CYANIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| IRON | 1050 | 3480 | 3800 | 1370 | 6260 | N/A | N/A | N/A |
| LEAD | 1.7 | 1.8 | 1.7 | 1.4 | 2.3 | N/A | N/A | N/A |
| MAGNESIUM | 51.5 K | 84.8 K | 92.4 K | 33.7 K | 125 K | N/A | N/A | N/A |
| MANGANESE | 3.6 | 5.4 | 5.8 | 5.1 | 13.8 | N/A | N/A | N/A |
| MERCURY | 0.09 | 0.1 | 0.1 | 0.18 B | 0.06 | N/A | N/A | N/A |
| NICKEL | 2.4 UL | 2.3 UL | 2.3 UL | 2.2 UL | 2.3 UL | N/A | N/A | N/A |
| POTASSIUM | 120 | 98.8 B | 130 | 66.5 B | 147 | N/A | N/A | N/A |
| SELENIUM | 0.18 U | 0.18 U | 0.18 UL | 0.17 U | 0.18 U | N/A | N/A | N/A |
| SILVER | 0.08 U | 0.08 U | 0.08 U | 0.07 U | 0.08 U | N/A | N/A | N/A |
| SODIUM | 19.6 U | 18.6 U | 18.7 U | 18.2 U | 18.8 U | N/A | N/A | N/A |
| THALLIUM | 0.32 U | 0.31 U | 0.31 U | 0.3 U | 0.31 U | N/A | N/A | N/A |
| VANADIUM | 3.3 UJ | 7.5 J | 9 J | 3.3 J | 10.5 J | N/A | N/A | N/A |
| ZINC | 4.2 L | 2.3 L | 2 L | 1.3 UL | 7.3 | N/A | N/A | N/A |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 1,2-DICHLOROBENZENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 1,3-DICHLOROBENZENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 1,4-DICHLOROBENZENE | 380 U | 370 U | 40 J | 360 U | 370 U | N/A | N/A | N/A |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2,4,5-TRICHLOROPHENOL | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| 2,4,6-TRICHLOROPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2,4-DICHLOROPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2,4-DIMETHYLPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2,4-DINITROPHENOL | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| 2,4-DINITROTOLUENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2,6-DINITROTOLUENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-21 | 04-SB-22 | 04-SB-22-D | 04-SB-23 | 04-SB-24 | 04-SB-25 | 04-SB-26 | 04-SB-26-D |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB21 | 04SB22 | 04SB22 | 04SB23 | 04SB24 | 04SB25 | 04SB26 | 04SB26 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 | 16-18 | 16-18 | 14-16 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | 04-SB-22-D | 04-SB-22 | | | | 04-SB-26-D | 04-SB-26 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2-CHLOROPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2-METHYLNAPHTHALENE | 510 | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2-METHYLPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 2-NITROANILINE | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| 2-NITROPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 3,3'-DICHLOROBENZIDINE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 3-NITROANILINE | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| 4,6-DINITRO-2-METHYLPHENOL | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| 4-BROMOPHENYL PHENYL ETHER | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 4-CHLORO-3-METHYLPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 4-CHLOROANILINE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 4-CHLOROPHENYL PHENYL ETHER | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 4-METHYLPHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| 4-NITROANILINE | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| 4-NITROPHENOL | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| ACENAPHTHENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| ACENAPHTHYLENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| ANTHRACENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BENZO(A)ANTHRACENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BENZO(A)PYRENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BENZO(B)FLUORANTHENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BENZO(G,H,I)PERYLENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BENZO(K)FLUORANTHENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BIS(2-CHLOROETHOXY)METHANE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BIS(2-CHLOROETHYL)ETHER | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| BIS(2-ETHYLHEXYL)PHTHALATE | 380 U | 370 U | 370 U | 53 J | 370 U | N/A | N/A | N/A |
| BUTYLBENZYL PHTHALATE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| CARBAZOLE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| CHRYSENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| DI-N-BUTYL PHTHALATE | 49 B | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| DI-N-OCTYL PHTHALATE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| DIBENZO(A,H)ANTHRACENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| DIBENZOFURAN | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| DIETHYL PHTHALATE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| DIMETHYL PHTHALATE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| FLUORANTHENE | 380 U | 370 U | [illegible] U | 360 U | 370 U | N/A | N/A | [illegible] |
| FLUORENE | 380 U | 370 U | [illegible] U | 360 U | 370 U | N/A | N/A | |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-21 | 04-SB-22 | 04-SB-22-D | 04-SB-23 | 04-SB-24 | 04-SB-25 | 04-SB-26 | 04-SB-26-D |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB21 | 04SB22 | 04SB22 | 04SB23 | 04SB24 | 04SB25 | 04SB26 | 04SB26 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 | 16-18 | 16-18 | 14-16 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | 04-SB-22-D | 04-SB-22 | | | | 04-SB-26-D | 04-SB-26 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| HEXACHLOROBUTADIENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| HEXACHLOROCYCLOPENTADIENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| HEXACHLOROETHANE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| INDENO(1,2,3-CD)PYRENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| ISOPHORONE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| N-NITROSO-DI-N-PROPYLAMINE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| N-NITROSODIPHENYLAMINE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| NAPHTHALENE | 63 J | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| NITROBENZENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| PENTACHLOROPHENOL | 960 U | 920 U | 920 U | 900 U | 930 U | N/A | N/A | N/A |
| PHENANTHRENE | 210 J | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| PHENOL | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| PYRENE | 380 U | 370 U | 370 U | 360 U | 370 U | N/A | N/A | N/A |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1,2,2-TETRACHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1,2-TRICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1-DICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,1-DICHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-BUTANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-HEXANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-METHYL-2-PENTANONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ACETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMODICHLOROMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMOFORM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBON DISULFIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CARBON TETRACHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROFORM | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHLOROMETHANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-21 | 04-SB-22 | 04-SB-22-D | 04-SB-23 | 04-SB-24 | 04-SB-25 | 04-SB-26 | 04-SB-26-D |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB21 | 04SB22 | 04SB22 | 04SB23 | 04SB24 | 04SB25 | 04SB26 | 04SB26 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 | 16-18 | 16-18 | 14-16 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | 04-SB-22-D | 04-SB-22 | | | | 04-SB-26-D | 04-SB-26 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ETHYLBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| METHYLENE CHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| STYRENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TETRACHLOROETHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TRANS-1,3-DICHLOROPROPENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TRICHLOROETHENE | N/A | N/A | N/A | N/A | N/A | 11 U | 107 | 3 B |
| VINYL CHLORIDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| XYLENES, TOTAL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4,4'-DDT | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ALPHA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1016 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1221 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1232 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1242 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1248 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1254 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AROCLOR-1260 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BETA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DELTA-BHC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| DIELDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN I | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN II | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ENDRIN KETONE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| GAMMA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEPTACHLOR | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HE[illegible]LOR EPOXIDE | N/A | N/A | [illegible]A | N/A | N/A | N/A | N/A | [illegible] |
| ME[illegible]YCHLOR | N/A | N/A | [illegible]A | N/A | N/A | N/A | N/A | [illegible] |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-21 | 04-SB-22 | 04-SB-22-D | 04-SB-23 | 04-SB-24 | 04-SB-25 | 04-SB-26 | 04-SB-26-D |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 04SB21 | 04SB22 | 04SB22 | 04SB23 | 04SB24 | 04SB25 | 04SB26 | 04SB26 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 | 16-18 | 16-18 | 14-16 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | 04-SB-22-D | 04-SB-22 | | | | 04-SB-26-D | 04-SB-26 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,3-DINITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4 DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2,6 DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4-NITROTOLUENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HMX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| RDX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TETRYL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PH | 5.12 | 5.05 | 5.43 | 4.88 | 4.77 | N/A | N/A | N/A |
| TOTAL KJELDAHL NITROGEN mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-27 | 04-SB-28 | 04-SB-29 |
|---|---|---|---|
| LOCATION: | 04SB27 | 04SB28 | 04SB29 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | |
| ALUMINUM | N/A | N/A | N/A |
| ANTIMONY | N/A | N/A | N/A |
| ARSENIC | N/A | N/A | N/A |
| BARIUM | N/A | N/A | N/A |
| BERYLLIUM | N/A | N/A | N/A |
| CADMIUM | N/A | N/A | N/A |
| CALCIUM | N/A | N/A | N/A |
| CHROMIUM | N/A | N/A | N/A |
| COBALT | N/A | N/A | N/A |
| COPPER | N/A | N/A | N/A |
| CYANIDE | N/A | N/A | N/A |
| IRON | N/A | N/A | N/A |
| LEAD | N/A | N/A | N/A |
| MAGNESIUM | N/A | N/A | N/A |
| MANGANESE | N/A | N/A | N/A |
| MERCURY | N/A | N/A | N/A |
| NICKEL | N/A | N/A | N/A |
| POTASSIUM | N/A | N/A | N/A |
| SELENIUM | N/A | N/A | N/A |
| SILVER | N/A | N/A | N/A |
| SODIUM | N/A | N/A | N/A |
| THALLIUM | N/A | N/A | N/A |
| VANADIUM | N/A | N/A | N/A |
| ZINC | N/A | N/A | N/A |
| **SEMIVOLATILES (ug/kg)** | | | |
| 1,2,4-TRICHLOROBENZENE | N/A | N/A | N/A |
| 1,2-DICHLOROBENZENE | N/A | N/A | N/A |
| 1,3-DICHLOROBENZENE | N/A | N/A | N/A |
| 1,4-DICHLOROBENZENE | N/A | N/A | N/A |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | N/A | N/A | N/A |
| 2,4,5-TRICHLOROPHENOL | N/A | N/A | N/A |
| 2,4,6-TRICHLOROPHENOL | N/A | N/A | N/A |
| 2,4-DICHLOROPHENOL | N/A | N/A | N/A |
| 2,4-DIMETHYLPHENOL | N/A | N/A | N/A |
| 2,4-DINITROPHENOL | N/A | N/A | N/A |
| 2,4-DINITROTOLUENE | N/A | N/A | N/A |
| 2,6-DINITROTOLUENE | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-27 | 04-SB-28 | 04-SB-29 |
|---|---|---|---|
| LOCATION: | 04SB27 | 04SB28 | 04SB29 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | N/A | N/A | N/A |
| 2-CHLOROPHENOL | N/A | N/A | N/A |
| 2-METHYLNAPHTHALENE | N/A | N/A | N/A |
| 2-METHYLPHENOL | N/A | N/A | N/A |
| 2-NITROANILINE | N/A | N/A | N/A |
| 2-NITROPHENOL | N/A | N/A | N/A |
| 3,3'-DICHLOROBENZIDINE | N/A | N/A | N/A |
| 3-NITROANILINE | N/A | N/A | N/A |
| 4,6-DINITRO-2-METHYLPHENOL | N/A | N/A | N/A |
| 4-BROMOPHENYL PHENYL ETHER | N/A | N/A | N/A |
| 4-CHLORO-3-METHYLPHENOL | N/A | N/A | N/A |
| 4-CHLOROANILINE | N/A | N/A | N/A |
| 4-CHLOROPHENYL PHENYL ETHER | N/A | N/A | N/A |
| 4-METHYLPHENOL | N/A | N/A | N/A |
| 4-NITROANILINE | N/A | N/A | N/A |
| 4-NITROPHENOL | N/A | N/A | N/A |
| ACENAPHTHENE | N/A | N/A | N/A |
| ACENAPHTHYLENE | N/A | N/A | N/A |
| ANTHRACENE | N/A | N/A | N/A |
| BENZO(A)ANTHRACENE | N/A | N/A | N/A |
| BENZO(A)PYRENE | N/A | N/A | N/A |
| BENZO(B)FLUORANTHENE | N/A | N/A | N/A |
| BENZO(G,H,I)PERYLENE | N/A | N/A | N/A |
| BENZO(K)FLUORANTHENE | N/A | N/A | N/A |
| BIS(2-CHLOROETHOXY)METHANE | N/A | N/A | N/A |
| BIS(2-CHLOROETHYL)ETHER | N/A | N/A | N/A |
| BIS(2-ETHYLHEXYL)PHTHALATE | N/A | N/A | N/A |
| BUTYLBENZYL PHTHALATE | N/A | N/A | N/A |
| CARBAZOLE | N/A | N/A | N/A |
| CHRYSENE | N/A | N/A | N/A |
| DI-N-BUTYL PHTHALATE | N/A | N/A | N/A |
| DI-N-OCTYL PHTHALATE | N/A | N/A | N/A |
| DIBENZO(A,H)ANTHRACENE | N/A | N/A | N/A |
| DIBENZOFURAN | N/A | N/A | N/A |
| DIETHYL PHTHALATE | N/A | N/A | N/A |
| DIMETHYL PHTHALATE | N/A | N/A | N/A |
| FLUORANTHENE | N/A | N/A | N/A |
| FLUORENE | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-27 | 04-SB-28 | 04-SB-29 |
|---|---|---|---|
| LOCATION: | 04SB27 | 04SB28 | 04SB29 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | N/A | N/A | N/A |
| HEXACHLOROBUTADIENE | N/A | N/A | N/A |
| HEXACHLOROCYCLOPENTADIENE | N/A | N/A | N/A |
| HEXACHLOROETHANE | N/A | N/A | N/A |
| INDENO(1,2,3-CD)PYRENE | N/A | N/A | N/A |
| ISOPHORONE | N/A | N/A | N/A |
| N-NITROSO-DI-N-PROPYLAMINE | N/A | N/A | N/A |
| N-NITROSODIPHENYLAMINE | N/A | N/A | N/A |
| NAPHTHALENE | N/A | N/A | N/A |
| NITROBENZENE | N/A | N/A | N/A |
| PENTACHLOROPHENOL | N/A | N/A | N/A |
| PHENANTHRENE | N/A | N/A | N/A |
| PHENOL | N/A | N/A | N/A |
| PYRENE | N/A | N/A | N/A |
| **VOLATILES (ug/kg)** | | | |
| 1,1,1-TRICHLOROETHANE | N/A | N/A | N/A |
| 1,1,2,2-TETRACHLOROETHANE | N/A | N/A | N/A |
| 1,1,2-TRICHLOROETHANE | N/A | N/A | N/A |
| 1,1-DICHLOROETHANE | N/A | N/A | N/A |
| 1,1-DICHLOROETHENE | N/A | N/A | N/A |
| 1,2-DICHLOROETHANE | N/A | N/A | N/A |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | N/A | N/A | N/A |
| 2-BUTANONE | N/A | N/A | N/A |
| 2-HEXANONE | N/A | N/A | N/A |
| 4-METHYL-2-PENTANONE | N/A | N/A | N/A |
| ACETONE | N/A | N/A | N/A |
| BENZENE | N/A | N/A | N/A |
| BROMODICHLOROMETHANE | N/A | N/A | N/A |
| BROMOFORM | N/A | N/A | N/A |
| BROMOMETHANE | N/A | N/A | N/A |
| CARBON DISULFIDE | N/A | N/A | N/A |
| CARBON TETRACHLORIDE | N/A | N/A | N/A |
| CHLOROBENZENE | N/A | N/A | N/A |
| CHLORODIBROMOMETHANE | N/A | N/A | N/A |
| CHLOROETHANE | N/A | N/A | N/A |
| CHLOROFORM | N/A | N/A | N/A |
| CHLOROMETHANE | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 04-SB-27 | 04-SB-28 | 04-SB-29 |
|---|---|---|---|
| LOCATION: | 04SB27 | 04SB28 | 04SB29 |
| SAMPLE DATE: | 6/8/95 | 6/8/95 | 6/8/95 |
| DEPTH INTERVAL (FEET): | 16-18 | 16-18 | 16-18 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | N/A | N/A | N/A |
| ETHYLBENZENE | N/A | N/A | N/A |
| METHYLENE CHLORIDE | N/A | N/A | N/A |
| STYRENE | N/A | N/A | N/A |
| TETRACHLOROETHENE | N/A | N/A | N/A |
| TOLUENE | N/A | N/A | N/A |
| TRANS-1,3-DICHLOROPROPENE | N/A | N/A | N/A |
| TRICHLOROETHENE | 11 U | 11 U | 11 U |
| VINYL CHLORIDE | N/A | N/A | N/A |
| XYLENES, TOTAL | N/A | N/A | N/A |
| **PESTICIDES/PCBs (ug/kg)** | | | |
| 4,4'-DDD | N/A | N/A | N/A |
| 4,4'-DDE | N/A | N/A | N/A |
| 4,4'-DDT | N/A | N/A | N/A |
| ALDRIN | N/A | N/A | N/A |
| ALPHA-BHC | N/A | N/A | N/A |
| ALPHA-CHLORDANE | N/A | N/A | N/A |
| AROCLOR-1016 | N/A | N/A | N/A |
| AROCLOR-1221 | N/A | N/A | N/A |
| AROCLOR-1232 | N/A | N/A | N/A |
| AROCLOR-1242 | N/A | N/A | N/A |
| AROCLOR-1248 | N/A | N/A | N/A |
| AROCLOR-1254 | N/A | N/A | N/A |
| AROCLOR-1260 | N/A | N/A | N/A |
| BETA-BHC | N/A | N/A | N/A |
| DELTA-BHC | N/A | N/A | N/A |
| DIELDRIN | N/A | N/A | N/A |
| ENDOSULFAN I | N/A | N/A | N/A |
| ENDOSULFAN II | N/A | N/A | N/A |
| ENDOSULFAN SULFATE | N/A | N/A | N/A |
| ENDRIN | N/A | N/A | N/A |
| ENDRIN ALDEHYDE | N/A | N/A | N/A |
| ENDRIN KETONE | N/A | N/A | N/A |
| GAMMA-BHC (LINDANE) | N/A | N/A | N/A |
| GAMMA-CHLORDANE | N/A | N/A | N/A |
| HEPTACHLOR | N/A | N/A | N/A |
| HEPTACHLOR EPOXIDE | N/A | N/A | N/A |
| METHOXYCHLOR | N/A | N/A | N/A |

TABLE K-2

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| **SAMPLE I.D.:** | | **04-SB-27** | **04-SB-28** | **04-SB-29** |
|---|---|---|---|---|
| **LOCATION:** | | **04SB27** | **04SB28** | **04SB29** |
| **SAMPLE DATE:** | | **6/8/95** | **6/8/95** | **6/8/95** |
| **DEPTH INTERVAL (FEET):** | | **16-18** | **16-18** | **16-18** |
| **ASSOCIATED DUPLICATE:** | | | | |
| **VALIDATION STATUS:** | | **VALIDATED** | **VALIDATED** | **VALIDATED** |
| TOXAPHENE | | N/A | N/A | N/A |
| **EXPLOSIVES (mg/kg)** | | | | |
| 1,3,5-TRINITROBENZENE | | N/A | N/A | N/A |
| 1,3-DINITROBENZENE | | N/A | N/A | N/A |
| 2,4 DINITROTOLUENE | | N/A | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | | N/A | N/A | N/A |
| 2,6 DINITROTOLUENE | | N/A | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | | N/A | N/A | N/A |
| 2-NITROTOLUENE | | N/A | N/A | N/A |
| 3-NITROTOLUENE | | N/A | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | | N/A | N/A | N/A |
| 4-NITROTOLUENE | | N/A | N/A | N/A |
| HMX | | N/A | N/A | N/A |
| NITROBENZENE | | N/A | N/A | N/A |
| RDX | | N/A | N/A | N/A |
| TETRYL | | N/A | N/A | N/A |
| **MISCELLANEOUS PARAMETERS** | | | | |
| ACID-INSOLUBLE SULFIDE | **mg/kg** | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) | **mg/kg** | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND | **mg/L** | N/A | N/A | N/A |
| FERROUS IRON | **mg/kg** | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM | **mg/kg** | N/A | N/A | N/A |
| PH | | N/A | N/A | N/A |
| TOTAL KJELDAHL NITROGEN | **mg/kg** | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON | **mg/kg** | N/A | N/A | N/A |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW100001 | 4GW110001 | 4GW120001 | 4GW130001 | 4GW150001 | 4GW480001 | 4GW49D0001 | 4GW500001 | 4GW520001 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW10 | 4GW11 | 4GW12 | 4GW13 | 4GW15 | 4GW48 | 4GW49D | 4GW50 | 4GW52 |
| SAMPLE DATE: | 02/18/99 | 02/11/99 | 02/16/99 | 02/19/99 | 02/20/99 | 02/12/99 | 02/18/99 | 02/17/99 | 02/16/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | | |
| ALUMINUM | 223000 | 26000 | 496 | 241 | 47.7 B | 47300 | 53.7 B | 72.2 B | 337 B |
| ANTIMONY | 1.9 U | 2.6 K | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 110 | 25.6 | 1.5 U | 1.5 U | 1.5 U | 27.0 | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 554 | 224 | 46.2 | 42.3 | 71.7 | 282 | 34.7 | 29.3 | 104 |
| BERYLLIUM | 4.7 | 0.68 B | 0.10 U | 0.10 U | 0.13 B | 2.6 B | 0.10 U | 0.16 B | 0.10 U |
| CADMIUM | 2.7 UL | 6.7 L | 2.7 UL | 2.7 U | 2.7 U | 7.3 L | 2.7 U | 2.7 UL | 2.7 UL |
| CALCIUM | 119000 | 114000 | 25400 | 29900 | 49400 | 70100 | 33800 | 20400 | 7800 |
| CHROMIUM | 1260 | 55.2 | 10.3 B | 7.4 B | 5.1 B | 180 | 2.3 U | 15.7 K | 19.2 K |
| COBALT | 102 K | 21.1 B | 32.4 | 20.9 | 6.1 | 74.0 | 9.4 | 55.1 | 76.0 |
| COPPER | 265 | 122 | 7.3 | 3.0 | 2.6 | 168 | 3.3 | 3.9 | 24.5 |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 329000 | 92900 | 1750 | 3640 | 102 B | 84600 | 2640 | 218 B | 2160 |
| LEAD | 146 | 93.8 | 1.0 U | 1.0 U | 1.0 U | 47.6 | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 23200 | 20000 | 15900 | 13900 | 18900 | 10500 | 13000 | 9620 | 12800 |
| MANGANESE | 15100 | 1420 | 1730 | 1440 | 324 | 798 | 466 | 2.4 B | 365 |
| MERCURY | 7.0 | 0.92 | 3.7 | 0.92 | 6.1 | 4.8 | 0.41 | 0.70 | 1.7 |
| NICKEL | 591 | 49.0 | 15.4 | 11.2 | 8.9 | 45.4 | 7.5 U | 16.2 | 90.3 |
| POTASSIUM | 10500 | 6290 | 2160 B | 2650 | 3080 | 4930 | 4640 | 2270 B | 2350 B |
| SELENIUM | 75.0 K | 19.6 K | 4.0 B | 2.6 B | 2.9 B | 44.8 K | 2.5 U | 2.5 U | 9.4 B |
| SILVER | 2.8 U | 3.7 B | 2.8 U | 2.8 U | 3.2 B | 9.5 B | 2.8 U | 4.0 B | 2.8 U |
| SODIUM | 13800 | 8290 | 10700 | 6740 | 17300 | 3950 | 17800 | 10100 | 7460 |
| THALLIUM | 5.8 UL | 5.8 B | 2.9 U | 2.9 U | 2.9 U | 5.0 B | 2.9 U | 3.6 B | 2.9 U |
| VANADIUM | 707 | 87.2 | 2.1 U | 2.1 U | 2.1 U | 184 | 2.1 U | 2.1 U | 2.8 |
| ZINC | 492 | 830 | 56.6 | 8.7 B | 15.1 | 118 | 27.4 | 13.9 | 25.6 |
| **SEMIVOLATILES (ug/L)** | | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLOROPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-NITROANILINE | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW100001 | 4GW110001 | 4GW120001 | 4GW130001 | 4GW150001 | 4GW480001 | 4GW49D0001 | 4GW500001 | 4GW520001 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW10 | 4GW11 | 4GW12 | 4GW13 | 4GW15 | 4GW48 | 4GW49D | 4GW50 | 4GW52 |
| SAMPLE DATE: | 02/18/99 | 02/11/99 | 02/16/99 | 02/19/99 | 02/20/99 | 02/12/99 | 02/18/99 | 02/17/99 | 02/16/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4,6-DINITRO-2-METHYLPHENOL | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| ACENAPHTHENE | 5 U | 1.1 J | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| ANTHRACENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(B)FLUORANTHENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(K)FLUORANTHENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5.8 U | 1 J | 5 U | 5 U | 5 U | 5 U | 5 U | 1.6 J |
| BUTYLBENZYL PHTHALATE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORANTHENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| ISOPHOR[illegible] | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| N-NITRO[illegible]-N-PROPYLAMINE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW100001 | 4GW110001 | 4GW120001 | 4GW130001 | 4GW150001 | 4GW480001 | 4GW49D0001 | 4GW500001 | 4GW520001 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW10 | 4GW11 | 4GW12 | 4GW13 | 4GW15 | 4GW48 | 4GW49D | 4GW50 | 4GW52 |
| SAMPLE DATE: | 02/18/99 | 02/11/99 | 02/16/99 | 02/19/99 | 02/20/99 | 02/12/99 | 02/18/99 | 02/17/99 | 02/16/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| N-NITROSODIPHENYLAMINE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 23 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5.8 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 16 | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1 U | 0.73 J | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1.3 | 15 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 2 UR | 1 UR | 10 UR | 1 UR | 15 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 10 UR | 5 UR | 50 UR | 5 UR | 75 UR | 5 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U | 10 U | 5 U | 50 U | 5 U | 75 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 10 U | 5 U | 50 U | 5 U | 75 U | 5 U |
| ACETONE | 5 UR | 6 B | 1.4 B | 10 UR | 1.8 B | 50 UR | 5 UR | 75 UR | 2.2 B |
| BENZENE | 1 U | 1.2 | 1 U | 0.96 J | 1 U | 10 U | 1 U | 15 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| BROMOFORM | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| CHLOROBENZENE | 1 U | 0.3 J | 1 U | 2.8 | 1 U | 3.7 J | 1 U | 15 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| CHLOROETHANE | 0.74 J | 1 U | 1 U | 2 U | 0.25 J | 10 U | 1 U | 15 U | 1 U |
| CHLOROFORM | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 0.33 J |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 19 | 1 U | 10 U | 1 U | 7.4 J | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW100001 | 4GW110001 | 4GW120001 | 4GW130001 | 4GW150001 | 4GW480001 | 4GW49D0001 | 4GW500001 | 4GW520001 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW10 | 4GW11 | 4GW12 | 4GW13 | 4GW15 | 4GW48 | 4GW49D | 4GW50 | 4GW52 |
| SAMPLE DATE: | 02/18/99 | 02/11/99 | 02/16/99 | 02/19/99 | 02/20/99 | 02/12/99 | 02/18/99 | 02/17/99 | 02/16/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 4 U | 2 U | 20 U | 2 U | 30 U | 2 U |
| STYRENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| TOLUENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| TRICHLOROETHENE | 0.46 J | 1 U | 1 U | 14 | 2.9 | 180 J | 1 U | 110 | 1 U |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 4.5 | 1 U | 10 U | 1 U | 15 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 2 U | 1 U | 10 U | 1 U | 15 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | | |
| 4,4'-DDD | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 UJ | 1.5 UL | 1.0 U | 1.0 U | 1.0 U | 1.4 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 UJ | 3.0 UL | 2.0 U | 2.0 U | 2.0 U | 2.8 UL | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 UJ | 1.5 UL | 1.0 U | 1.0 U | 1.0 U | 1.4 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 UJ | 1.5 UL | 1.0 U | 1.0 U | 1.0 U | 1.4 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 UJ | 1.5 UL | 1.0 U | 1.0 U | 1.0 U | 1.4 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 UJ | 1.5 UL | 1.0 U | 1.0 U | 1.0 U | 1.4 UL | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 UJ | 1.5 UL | 1.0 U | 1.0 U | 1.0 U | 1.4 UL | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 UJ | 0.15 UL | 0.10 U | 0.10 U | 0.10 U | 0.14 UL | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 UJ | 0.074 UL | 0.050 U | 0.050 U | 0.050 U | 0.069 UL | 0.050 U | 0.050 U | 0.050 U |
| METHOX[illegible]LOR | 0.50 UJ | 0.74 UL | 0.50 U | 0.50 U | 0.50 U | 0.69 UL | 0.50 U | 0.50 U | 0.50 U |
| TOXAPH[illegible] | 5.0 UJ | 7.4 UL | 5.0 U | 5.0 U | 5.0 U | 6.9 UL | 5.0 U | 5.0 U | 5.0 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW100001 | 4GW110001 | 4GW120001 | 4GW130001 | 4GW150001 | 4GW480001 | 4GW49D0001 | 4GW500001 | 4GW520001 |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW10 | 4GW11 | 4GW12 | 4GW13 | 4GW15 | 4GW48 | 4GW49D | 4GW50 | 4GW52 |
| SAMPLE DATE: | 02/18/99 | 02/11/99 | 02/16/99 | 02/19/99 | 02/20/99 | 02/12/99 | 02/18/99 | 02/17/99 | 02/16/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **EXPLOSIVES (ug/L)** | | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U | 5 U | 12.4 K | 5 U | 5 U | 9.29 K | 5 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW790001 | 4GW790001-D | 4GW800001 | 4GW81D0001 | 4GW81D0001-D | 4GW81S0001 | 4GW820001 | 4GW890001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW79 | 4GW79 | 4GW80 | 4GW81D | 4GW81D | 4GW81S | 4GW82 | 4PZ89 |
| SAMPLE DATE: | 02/20/99 | 02/20/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/20/99 |
| ASSOCIATED DUPLICATE: | 4GW790001-D | 4GW790001 | | 4GW81D0001-D | 4GW81D0001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 46.7 B | 55.0 B | 112 B | 87.3 B | 86.8 B | 195 B | 31400 | 241 |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 4.2 B | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 13.2 | 1.5 U |
| BARIUM | 51.9 | 53.6 | 24.0 | 85.1 | 85.5 | 84.6 | 263 | 41.8 |
| BERYLLIUM | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.13 B | 2.1 | 0.10 U |
| CADMIUM | 3.0 B | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 3.6 B | 2.8 B | 2.7 U |
| CALCIUM | 23800 | 24600 | 4200 | 2820 | 2810 | 2790 | 3240 | 17500 |
| CHROMIUM | 2.3 B | 2.3 U | 15.1 B | 2.3 U | 2.3 U | 21.5 | 105 | 2.3 U |
| COBALT | 5.4 | 5.0 | 41.9 | 5.0 | 3.3 U | 13.7 | 41.1 K | 7.2 |
| COPPER | 3.5 | 2.6 | 6.0 | 2.4 U | 2.4 U | 15.1 | 92.2 | 2.6 |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 52.8 B | 61.7 B | 5490 | 55.7 B | 43.5 B | 2140 | 133000 | 280 B |
| LEAD | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 42.3 | 1.0 U |
| MAGNESIUM | 13500 | 13900 | 3380 | 6550 | 6560 | 5620 | 15800 | 10700 |
| MANGANESE | 491 | 508 | 157 | 78.0 | 77.7 | 140 | 407 | 358 |
| MERCURY | 2.0 | 2.0 | 0.31 | 5.2 | 5.2 | 3.3 | 2.2 | 2.2 |
| NICKEL | 7.5 U | 7.5 U | 39.3 | 7.5 U | 10.8 | 37.9 | 115 | 7.5 U |
| POTASSIUM | 2620 | 2370 B | 2170 B | 1390 B | 1490 B | 1790 B | 12300 | 2110 B |
| SELENIUM | 2.5 U | 2.5 U | 3.7 B | 5.2 B | 5.2 B | 5.6 B | 10.5 B | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 12600 | 13000 | 57100 | 6520 | 6520 | 9710 | 19600 | 11900 |
| THALLIUM | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 5.2 B | 2.9 U | 3.9 B | 2.9 U |
| VANADIUM | 2.8 B | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 93.7 | 2.1 U |
| ZINC | 5.1 B | 5.4 B | 8.7 B | 6.2 B | 4.6 B | 53.8 | 214 | 17.7 |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 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 | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 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 | 5 U |
| 2,4-DINITROPHENOL | 20 U | 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 | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 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 | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 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 | U |
| 2-NITROANILINE | 20 U | 20 U | 2[illegible] | 20 U | 20 U | 20 U | 20 U | U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW790001 | 4GW790001-D | 4GW800001 | 4GW81D0001 | 4GW81D0001-D | 4GW81S0001 | 4GW820001 | 4GW890001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW79 | 4GW79 | 4GW80 | 4GW81D | 4GW81D | 4GW81S | 4GW82 | 4PZ89 |
| SAMPLE DATE: | 02/20/99 | 02/20/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/20/99 |
| ASSOCIATED DUPLICATE: | 4GW790001-D | 4GW790001 | | 4GW81D0001-D | 4GW81D0001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 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 | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-NITROANILINE | 20 U | 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 | 20 U |
| ACENAPHTHENE | 5 U | 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 | 5 U |
| ANTHRACENE | 5 U | 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 | 5 U |
| BENZO(A)PYRENE | 5 U | 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 | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 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 | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 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 | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 1.2 J | 5 U | 5 U | 5 U | 5 U | 1.1 J | 2.1 J | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 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 | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 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 | 5 U |
| DIETHYL PHTHALATE | 5 U | 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 | 5 U |
| FLUORANTHENE | 5 U | 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 | 5 U |
| HEXACHLOROBENZENE | 5 U | 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 | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 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 | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 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 | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW790001 | 4GW790001-D | 4GW800001 | 4GW81D0001 | 4GW81D0001-D | 4GW81S0001 | 4GW820001 | 4GW890001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW79 | 4GW79 | 4GW80 | 4GW81D | 4GW81D | 4GW81S | 4GW82 | 4PZ89 |
| SAMPLE DATE: | 02/20/99 | 02/20/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/20/99 |
| ASSOCIATED DUPLICATE: | 4GW790001-D | 4GW790001 | | 4GW81D0001-D | 4GW81D0001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| N-NITROSODIPHENYLAMINE | 5 U | 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 | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 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 | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0.32 J | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 17 | 18 | 4 | 0.98 J | 1.2 | 4.7 | 1 U | 3.8 |
| 1,1,2-TRICHLOROETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 0.32 J | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 0.28 J |
| 1,1-DICHLOROETHENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 2 UR | 2 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 0.62 J | 0.63 J | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 5 UR | 10 UR | 10 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 5 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACETONE | 1.6 B | 10 UR | 10 UR | 5 UR | 5 UR | 5 UR | 5 UR | 2 B |
| BENZENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOFORM | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| BROMOMETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROBENZENE | 0.61 J | 0.6 J | 2 U | 1 U | 1 U | 1 U | 1 U | 0.34 J |
| CHLORODIBROMOMETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLOROFORM | 1 U | 2 U | 0.94 B | 1 U | 1 U | 1 U | 0.46 B | 1 U |
| CHLOROMETHANE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2 DICHLOROETHENE | 1.7 | 1.7 J | 2 [illegible] | 1 U | 1 U | 0.49 J | 1 U | 0.32 J |
| CIS-1[illegible]HLOROPROPENE | 1 U | 2 U | [illegible] | 1 U | 1 U | 1 U | 1 U | [illegible] U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW790001 | 4GW790001-D | 4GW800001 | 4GW81D0001 | 4GW81D0001-D | 4GW81S0001 | 4GW820001 | 4GW890001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW79 | 4GW79 | 4GW80 | 4GW81D | 4GW81D | 4GW81S | 4GW82 | 4PZ89 |
| SAMPLE DATE: | 02/20/99 | 02/20/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/20/99 |
| ASSOCIATED DUPLICATE: | 4GW790001-D | 4GW790001 | | 4GW81D0001-D | 4GW81D0001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ETHYLBENZENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 4 U | 4 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| STYRENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TETRACHLOROETHENE | 0.28 J | 2 U | 0.99 J | 0.74 J | 0.73 J | 1.3 | 1 U | 1 U |
| TOLUENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 43 | 43 | 49 | 0.51 J | 0.52 J | 1.3 | 1 U | 16 |
| VINYL CHLORIDE | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 2 U | 2 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 UL | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UL | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UL | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 UL | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 UL | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 UL | 5.0 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW790001 | 4GW790001-D | 4GW800001 | 4GW81D0001 | 4GW81D0001-D | 4GW81S0001 | 4GW820001 | 4GW890001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW79 | 4GW79 | 4GW80 | 4GW81D | 4GW81D | 4GW81S | 4GW82 | 4PZ89 |
| SAMPLE DATE: | 02/20/99 | 02/20/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/19/99 | 02/20/99 |
| ASSOCIATED DUPLICATE: | 4GW790001-D | 4GW790001 | | 4GW81D0001-D | 4GW81D0001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 1.3 | 1.7 | 1.6 | 2 | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 2.6 | 0.84 | 0.81 | 1.1 | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1000001 | 4GW1010001 | 4GW1020001 | 4GW1030001 | 4GW1040001 | 4GW1050001 | 4GW1050001-D | 4GW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW100 | 4GW101 | 4GW102 | 4GW103 | 4GW104 | 4GW105 | 4GW105 | 4GW106 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/17/99 | 02/16/99 | 02/18/99 | 02/17/99 | 02/17/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 4GW1050001-D | 4GW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 82000 | 245 | 520 | 172 B | 2570 | 22.8 B | 27.3 B | 159 B |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 40.6 | 1.5 U | 1.5 U | 1.5 U | 2.3 | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 176 | 71.0 | 25.1 | 69.5 | 116 | 57.8 | 60.5 | 120 |
| BERYLLIUM | 1.5 B | 0.10 U | 0.10 U | 0.10 U | 0.14 B | 0.10 U | 0.10 U | 0.10 B |
| CADMIUM | 2.7 UL | 2.7 U | 2.7 UL | 2.7 UL | 2.7 U | 2.7 UL | 2.7 UL | 2.7 U |
| CALCIUM | 16200 | 58400 | 8580 | 16300 | 15100 | 49200 | 51600 | 12800 |
| CHROMIUM | 155 | 25.6 | 9.3 B | 17.2 K | 8.8 B | 2.3 U | 2.3 U | 20.0 |
| COBALT | 16.8 K | 23.8 | 37.8 | 25.2 | 5.7 | 32.8 | 37.8 | 52.4 |
| COPPER | 83.5 | 5.2 | 5.1 | 3.0 | 5.1 | 2.4 U | 2.4 U | 7.3 |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 104000 | 20500 | 23200 | 13500 | 6120 | 25000 | 26000 | 5510 |
| LEAD | 40.0 | 1.0 U | 1.0 U | 1.0 U | 4.1 B | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 11300 | 22200 | 2950 | 16700 | 16400 | 15600 | 16100 | 13100 |
| MANGANESE | 292 | 2550 | 817 | 897 | 232 | 2200 | 2300 | 1250 |
| MERCURY | 7.2 | 0.20 U | 0.20 UL | 0.20 UL | 3.3 | 0.20 UL | 0.20 UL | 2.3 |
| NICKEL | 27.9 L | 19.6 | 15.5 | 28.6 | 7.5 U | 16.1 | 14.8 | 19.3 |
| POTASSIUM | 5140 | 7630 | 6160 | 4020 | 1860 B | 3620 | 3960 | 1770 B |
| SELENIUM | 7.2 B | 2.8 B | 2.5 U | 3.0 B | 2.9 B | 2.5 U | 4.0 B | 2.8 B |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 10800 | 12400 | 22200 | 18700 | 15000 | 31100 | 32000 | 12600 |
| THALLIUM | 2.9 UL | 2.9 U | 3.3 B | 3.2 B | 4.6 B | 3.2 B | 6.4 B | 2.9 U |
| VANADIUM | 269 | 2.1 U | 2.8 | 2.8 | 10.7 B | 2.1 U | 2.1 U | 2.1 U |
| ZINC | 94.8 K | 9.4 B | 18.2 | 57.4 | 12.1 B | 22.3 | 17.9 | 12.1 B |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 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 | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 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 | 5 U |
| 2,4-DINITROPHENOL | 20 U | 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 | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 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 | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 2 J | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 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 | 20 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1000001 | 4GW1010001 | 4GW1020001 | 4GW1030001 | 4GW1040001 | 4GW1050001 | 4GW1050001-D | 4GW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW100 | 4GW101 | 4GW102 | 4GW103 | 4GW104 | 4GW105 | 4GW105 | 4GW106 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/17/99 | 02/16/99 | 02/18/99 | 02/17/99 | 02/17/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 4GW1050001-D | 4GW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 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 | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 UR | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-NITROANILINE | 20 U | 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 | 20 U |
| ACENAPHTHENE | 5 U | 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 | 5 U |
| ANTHRACENE | 5 U | 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 | 5 U |
| BENZO(A)PYRENE | 5 U | 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 | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 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 | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 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 | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 1.8 J | 5 U | 1.4 J | 1.8 J | 1.3 J | 5 U | 5 U | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 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 | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 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 | 5 U |
| DIETHYL PHTHALATE | 5 U | 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 | 5 U |
| FLUORANTHENE | 5 U | 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 | 5 U |
| HEXACHLOROBENZENE | 5 U | 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 | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 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 | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 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 | 5 U |
| N-NITROSODI-N-PROPYLAMINE | 5 U | 5 U | 5 [illegible] | 5 U | 5 U | 5 U | 5 U | [illegible] U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1000001 | 4GW1010001 | 4GW1020001 | 4GW1030001 | 4GW1040001 | 4GW1050001 | 4GW1050001-D | 4GW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW100 | 4GW101 | 4GW102 | 4GW103 | 4GW104 | 4GW105 | 4GW105 | 4GW106 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/17/99 | 02/16/99 | 02/18/99 | 02/17/99 | 02/17/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 4GW1050001-D | 4GW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5 U | 5 U | 1.2 J | 5 U | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 1.5 J | 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 | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0.25 J | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 330 | 330 | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1500 U | 0.36 J | 1 U | 200 U | 200 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1500 UR | 1 UR | 1 UR | 200 UR | 200 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 7500 UR | 5 UR | 5 UR | 1000 UR | 1000 UR | 5 UR |
| 2-HEXANONE | 5 U | 5 U | 7500 U | 5 U | 5 U | 1000 U | 1000 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 7500 U | 5 U | 5 U | 1000 U | 1000 U | 5 U |
| ACETONE | 5 UR | 3.3 B | 7500 UR | 2.2 B | 5 UR | 1000 UR | 1000 UR | 5 UR |
| BENZENE | 1 U | 0.64 J | 1500 U | 0.52 J | 1 U | 200 U | 200 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| BROMOFORM | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| BROMOMETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CHLOROBENZENE | 1 U | 4.6 | 1500 U | 1 U | 1 U | 200 U | 54 J | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CHLOROETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CHLOROFORM | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CHLOROMETHANE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 0.31 J | 8500 | 0.44 J | 1 U | 610 | 620 | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1000001 | 4GW1010001 | 4GW1020001 | 4GW1030001 | 4GW1040001 | 4GW1050001 | 4GW1050001-D | 4GW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW100 | 4GW101 | 4GW102 | 4GW103 | 4GW104 | 4GW105 | 4GW105 | 4GW106 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/17/99 | 02/16/99 | 02/18/99 | 02/17/99 | 02/17/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 4GW1050001-D | 4GW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ETHYLBENZENE | 1 U | 1 U | 1500 U | 0.56 J | 1 U | 200 U | 200 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 3000 U | 2 U | 2 U | 400 U | 400 U | 2 U |
| STYRENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| TOLUENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1500 U | 1 U | 1 U | 200 U | 200 U | 1 U |
| TRICHLOROETHENE | 11 | 4.7 | 8500 | 4.3 | 1 U | 2800 | 2800 | 1 U |
| VINYL CHLORIDE | 1 U | 1 U | 1500 U | 1 U | 1 U | 64 J | 66 J | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1500 U | 1.6 | 1 U | 200 U | 200 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| 4,4'-DDE | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| 4,4'-DDT | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| ALDRIN | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| ALPHA-BHC | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| ALPHA-CHLORDANE | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| AROCLOR-1016 | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UL |
| AROCLOR-1221 | 2.0 UL | 2.0 U | 2.0 U | 2.0 U | 2.0 UJ | 2.0 U | 2.0 U | 2.0 UL |
| AROCLOR-1232 | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UL |
| AROCLOR-1242 | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UL |
| AROCLOR-1248 | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UL |
| AROCLOR-1254 | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UL |
| AROCLOR-1260 | 1.0 UL | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UL |
| BETA-BHC | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| DELTA-BHC | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| DIELDRIN | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| ENDOSULFAN I | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| ENDOSULFAN II | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| ENDOSULFAN SULFATE | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| ENDRIN | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| ENDRIN ALDEHYDE | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| ENDRIN KETONE | 0.10 UL | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UL |
| GAMMA-BHC (LINDANE) | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| GAMMA-CHLORDANE | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| HEPTACHLOR | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| HEPTACHLOR EPOXIDE | 0.050 UL | 0.050 U | 0.050 U | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UL |
| METHOXYCHLOR | 0.50 UL | 0.50 U | 0.50 U | 0.50 U | 0.50 UJ | 0.50 U | 0.50 U | 0.50 UL |
| TOXAP[illegible] | 5.0 UL | 5.0 U | 5.0 [illegible] | 5.0 U | 5.0 UJ | 5.0 U | 5.0 U | [illegible] UL |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1000001 | 4GW1010001 | 4GW1020001 | 4GW1030001 | 4GW1040001 | 4GW1050001 | 4GW1050001-D | 4GW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW100 | 4GW101 | 4GW102 | 4GW103 | 4GW104 | 4GW105 | 4GW105 | 4GW106 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/17/99 | 02/16/99 | 02/18/99 | 02/17/99 | 02/17/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 4GW1050001-D | 4GW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.96 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 3.5 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.60 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 3.8 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 1.4 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 4.3 U | 5.2 U | 0.20 U | 0.20 U | 2.6 U | 1.6 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.80 | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.43 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 1.7 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1070001 | 4GW1080001 | 4GW1090001 | 4GW1090001-D | 4GW1100001 |
|---|---|---|---|---|---|
| LOCATION: | 4GW107 | 4GW108 | 4GW109 | 4GW109 | 4GW110 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/16/99 | 02/16/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 4GW1090001-D | 4GW1090001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | |
| ALUMINUM | 131 B | 4720 | 45.0 B | 41.4 B | 2170 |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 3.0 K |
| ARSENIC | 1.5 U | 4.6 | 1.5 U | 1.5 U | 3.7 B |
| BARIUM | 45.2 | 176 | 100 | 38.4 | 59.7 |
| BERYLLIUM | 0.10 U | 0.46 B | 0.10 U | 0.10 U | 0.18 B |
| CADMIUM | 2.7 U | 2.7 U | 2.7 UL | 2.7 UL | 2.7 UJ |
| CALCIUM | 19500 | 6330 | 2230 | 2030 | 18600 |
| CHROMIUM | 2.3 U | 15.7 B | 10.2 B | 10.6 B | 5.8 B |
| COBALT | 12.3 | 12.2 | 30.2 | 30.6 | 62.4 |
| COPPER | 2.4 U | 16.5 | 7.3 | 5.2 | 12.2 |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 2260 | 10200 | 6770 | 6720 | 30100 J |
| LEAD | 1.0 U | 4.7 B | 1.0 U | 1.0 U | 4.3 |
| MAGNESIUM | 10900 | 10800 | 1890 | 1860 | 13900 |
| MANGANESE | 519 | 138 | 465 | 440 | 5680 |
| MERCURY | 0.20 U | 0.20 U | 0.20 UL | 0.20 UL | 0.20 U |
| NICKEL | 7.5 U | 13.0 | 16.8 | 16.7 | 7.5 U |
| POTASSIUM | 3620 | 3090 | 2430 B | 1810 B | 12500 |
| SELENIUM | 3.1 B | 12.6 B | 2.5 U | 2.5 U | 2.9 |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 14600 | 37800 | 13300 | 13600 | 152000 |
| THALLIUM | 2.9 U | 2.9 U | 2.9 U | 3.8 B | 4.4 B |
| VANADIUM | 2.1 U | 32.1 | 2.1 U | 2.1 U | 8.0 B |
| ZINC | 8.5 B | 14.1 | 40.4 | 37.3 | 13.7 |
| **SEMIVOLATILES (ug/L)** | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1070001 | 4GW1080001 | 4GW1090001 | 4GW1090001-D | 4GW1100001 |
|---|---|---|---|---|---|
| LOCATION: | 4GW107 | 4GW108 | 4GW109 | 4GW109 | 4GW110 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/16/99 | 02/16/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 4GW1090001-D | 4GW1090001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 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 |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| ACENAPHTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BENZO(B)FLUORANTHENE | 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 |
| BENZO(K)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U | 5 U | 5 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 1.4 J | 5 U | 5 U | 5 U | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| FLUORENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROETHANE | 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 |
| ISOPHORONE | 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 |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1070001 | 4GW1080001 | 4GW1090001 | 4GW1090001-D | 4GW1100001 |
|---|---|---|---|---|---|
| LOCATION: | 4GW107 | 4GW108 | 4GW109 | 4GW109 | 4GW110 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/16/99 | 02/16/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 4GW1090001-D | 4GW1090001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5 U | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,1,2,2-TETRACHLOROETHANE | 1.6 | 1 U | 28 | 29 | 1.0 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 0.58 J | 0.55 J | 1.0 U |
| 1,1-DICHLOROETHANE | 0.25 J | 1 U | 1 U | 2 U | 1.0 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 2 UR | 1.0 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 0.44 J |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 10 UR | 5.0 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U | 10 U | 5.0 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 10 U | 5.0 U |
| ACETONE | 5 UR | 5 UR | 2.3 B | 10 UR | 4.0 B |
| BENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| BROMOFORM | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CHLOROETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CHLOROFORM | 1 U | 0.58 B | 0.86 J | 0.84 J | 1.0 U |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U | 2.1 | 1.9 J | 0.63 J |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1070001 | 4GW1080001 | 4GW1090001 | 4GW1090001-D | 4GW1100001 |
|---|---|---|---|---|---|
| LOCATION: | 4GW107 | 4GW108 | 4GW109 | 4GW109 | 4GW110 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/16/99 | 02/16/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 4GW1090001-D | 4GW1090001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 4 U | 2.0 U |
| STYRENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| TETRACHLOROETHENE | 1 U | 1 U | 1.9 | 1.8 J | 1.0 |
| TOLUENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 3.1 | 3 | 1.0 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| TRICHLOROETHENE | 8.1 | 1 U | 6.1 | 5.8 | 1.0 |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 2 U | 1.0 U |
| PESTICIDES/PCBs (ug/L) | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| 4,4'-DDE | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| 4,4'-DDT | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| ALDRIN | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| ALPHA-BHC | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| ALPHA-CHLORDANE | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| AROCLOR-1016 | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UJ |
| AROCLOR-1221 | 2.0 U | 2.0 UJ | 2.0 U | 2.0 U | 2.0 UJ |
| AROCLOR-1232 | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UJ |
| AROCLOR-1242 | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UJ |
| AROCLOR-1248 | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UJ |
| AROCLOR-1254 | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UJ |
| AROCLOR-1260 | 1.0 U | 1.0 UJ | 1.0 U | 1.0 U | 1.0 UJ |
| BETA-BHC | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| DELTA-BHC | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| DIELDRIN | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| ENDOSULFAN I | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| ENDOSULFAN II | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| ENDRIN | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| ENDRIN KETONE | 0.10 U | 0.10 UJ | 0.10 U | 0.10 U | 0.10 UJ |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| GAMMA-CHLORDANE | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| HEPTACHLOR | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 UJ | 0.050 U | 0.050 U | 0.050 UJ |
| METHOXYCHLOR | 0.50 U | 0.50 UJ | 0.50 U | 0.50 U | 0.50 UJ |
| TOXAPHENE | 5.0 U | 5.0 UJ | 5.0 U | 5.0 U | 5.0 UJ |

TABLE K-3

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 4GW1070001 | 4GW1080001 | 4GW1090001 | 4GW1090001-D | 4GW1100001 |
|---|---|---|---|---|---|
| LOCATION: | 4GW107 | 4GW108 | 4GW109 | 4GW109 | 4GW110 |
| SAMPLE DATE: | 02/18/99 | 02/18/99 | 02/16/99 | 02/16/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 4GW1090001-D | 4GW1090001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **EXPLOSIVES (ug/L)** | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 1.0 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| RDX | 0.50 U | 0.50 U | 0.67 | 0.64 | 1.0 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.40 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | |
| AMMONIUM PERCHLORATE | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE K-4

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANANLYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 4GW100001-F | 4GW110001-F | 4GW120001-F | 4GW130001-F | 4GW480001-F | 4GW49D0001-F | 4GW500001-F | 4GW520001-F |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW10 | 4GW11 | 4GW12 | 4GW13 | 4GW48 | 4GW49D | 4GW50 | 4GW52 |
| SAMPLE DATE: | 02/18/99 | 02/11/99 | 02/16/99 | 02/19/99 | 02/12/99 | 02/18/99 | 02/17/99 | 02/16/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM, FILTERED | 37.7 B | 34.1 B | 179 B | 15.7 B | 40.9 B | 36.9 B | 25.1 B | 34.9 B |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 51.4 | 117 | 46.1 | 42.1 | 23 | 34 | 29.6 | 105 |
| BERYLLIUM, FILTERED | 0.2 B | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.12 B | 0.1 U | 0.1 U |
| CADMIUM, FILTERED | 2.7 U | 2.7 UL | 2.7 UL | 2.7 U | 2.7 UL | 2.7 U | 2.7 UL | 2.7 UL |
| CALCIUM, FILTERED | 99300 | 108000 | 25800 | 30000 | 47300 | 34100 | 21600 | 7810 |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 3.1 B | 2.3 U |
| COBALT, FILTERED | 3.3 U | 3.3 U | 29.6 | 18.4 | 3.3 U | 11.6 | 55.2 | 71.4 |
| COPPER, FILTERED | 2.4 U | 2.4 U | 4.4 | 2.4 U | 2.4 U | 2.6 | 2.4 U | 18.9 |
| IRON, FILTERED | 11.2 B | 10500 | 139 B | 2930 | 32.8 B | 2500 | 45 B | 515 |
| LEAD, FILTERED | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| MAGNESIUM, FILTERED | 17300 | 20300 | 16100 | 14300 | 6930 | 13400 | 9920 | 13200 |
| MANGANESE, FILTERED | 44.8 | 1230 | 1750 | 1450 | 13 | 473 | 3.1 B | 365 |
| MERCURY, FILTERED | 1.4 | 0.2 UL | 3.5 | 0.71 | 0.2 UL | 0.2 | 0.53 | 0.7 |
| NICKEL, FILTERED | 7.5 U | 16.2 L | 12.2 | 8.3 | 7.5 U | 7.5 U | 9.6 | 71 |
| POTASSIUM, FILTERED | 3740 | 4880 | 1800 B | 2790 | 2050 B | 5500 | 1760 B | 2500 |
| SELENIUM, FILTERED | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 7 B |
| SILVER, FILTERED | 2.8 U | 2.8 UL | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 13800 | 8380 | 10200 | 6600 | 3250 | 17600 | 9510 | 6810 |
| THALLIUM, FILTERED | 2.9 U | 3.4 B | 2.9 U | 2.9 U | 4 B | 2.9 U | 2.9 U | 3.3 B |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 4 B | 2.1 U | 2.1 U |
| ZINC, FILTERED | 8.4 B | 7.9 | 42.7 | 15.5 | 4.2 | 31.8 | 3.1 | 15.9 |

TABLE K-4

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANANLYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 4GW800001-F | 4GW81S0001-F | 4GW820001-F | 4GW1000001-F | 4GW1010001-F | 4GW1020001-F | 4GW1030001-F | 4GW1040001-F |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 4GW80 | 4GW81S | 4GW82 | 4GW100 | 4GW101 | 4GW102 | 4GW103 | 4GW104 |
| SAMPLE DATE: | 02/19/99 | 02/19/99 | 02/19/99 | 02/18/99 | 02/18/99 | 02/17/99 | 02/16/99 | 02/18/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM, FILTERED | 21.8 B | 61.9 B | 108 B | 19.5 B | 23 B | 34.8 B | 131 B | 215 B |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 2 B | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 2.5 |
| BARIUM, FILTERED | 22.9 | 81.8 | 57.1 | 31 | 73.4 | 19.2 | 69.6 | 114 |
| BERYLLIUM, FILTERED | 0.1 U | 0.2 B | 0.32 B | 0.1 U | 0.1 U | 0.12 B | 0.1 U | 0.26 B |
| CADMIUM, FILTERED | 2.7 U | 3.6 B | 3.6 B | 2.7 U | 2.7 U | 2.7 UL | 2.7 UL | 2.7 U |
| CALCIUM, FILTERED | 4040 | 2530 | 2160 | 12800 | 58600 | 6870 | 16300 | 15100 |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 3.3 B | 2.3 U |
| COBALT, FILTERED | 37.9 | 9.7 | 14.1 | 3.3 U | 24.6 | 35.8 | 19.3 B | 5.4 |
| COPPER, FILTERED | 2.4 U | 10.4 | 10.4 | 2.4 U | 2.4 U | 2.4 U | 2.4 U | 2.4 U |
| IRON, FILTERED | 4670 | 617 | 162 B | 19.8 B | 19600 | 9630 | 13400 | 2090 |
| LEAD, FILTERED | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| MAGNESIUM, FILTERED | 3320 | 5500 | 4000 | 8120 | 23100 | 2360 | 16800 | 17200 |
| MANGANESE, FILTERED | 152 | 133 | 194 | 144 | 2610 | 649 | 900 | 232 |
| MERCURY, FILTERED | 0.2 U | 2.7 | 0.2 U | 1.8 | 0.2 U | 0.2 UL | 0.2 UL | 0.2 U |
| NICKEL, FILTERED | 36.4 | 23 | 65 | 7.5 U | 7.5 U | 18.2 | 27 | 7.5 U |
| POTASSIUM, FILTERED | 2040 B | 1730 B | 2960 | 2320 B | 7950 | 5120 | 3280 | 2000 B |
| SELENIUM, FILTERED | 2.7 B | 3.6 B | 2.5 U | 3.6 B | 2.5 U | 2.5 U | 2.5 U | 3.2 B |
| SILVER, FILTERED | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 3.3 B | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 56700 | 9120 | 19500 | 10700 | 12200 | 19200 | 18200 | 15600 |
| THALLIUM, FILTERED | 2.9 U | 2.9 U | 2.9 U | 3.4 B | 2.9 U | 2.9 U | 3.3 B | 4 B |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 3 B | 2.6 B | 2.7 B | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 9.4 B | 46.9 | 52.6 | 17.8 | 3.2 B | 4.6 | 13.5 | 4.7 B |

TABLE K-4

SITE 4
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANANLYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 4GW1080001-F | 4GW1100001-F |
|---|---|---|
| LOCATION: | 4GW108 | 4GW110 |
| SAMPLE DATE: | 02/18/99 | 02/21/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | |
| ALUMINUM, FILTERED | 263 | 12.7 U |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 165 | 56.6 J |
| BERYLLIUM, FILTERED | 0.46 B | 0.1 UL |
| CADMIUM, FILTERED | 2.7 U | 2.7 UL |
| CALCIUM, FILTERED | 6060 | 22700 J |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U |
| COBALT, FILTERED | 11.2 | 59.1 |
| COPPER, FILTERED | 2.4 U | 2.4 U |
| IRON, FILTERED | 60 B | 18900 J |
| LEAD, FILTERED | 1 U | 1 U |
| MAGNESIUM, FILTERED | 10700 | 16100 |
| MANGANESE, FILTERED | 126 | 7200 |
| MERCURY, FILTERED | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 15.4 | 14.8 |
| POTASSIUM, FILTERED | 3020 | 14200 |
| SELENIUM, FILTERED | 4.2 B | 2.5 U |
| SILVER, FILTERED | 2.8 B | 2.8 U |
| SODIUM, FILTERED | 38000 | 207000 |
| THALLIUM, FILTERED | 3.7 B | 2.9 U |
| VANADIUM, FILTERED | 4 B | 2.1 U |
| ZINC, FILTERED | 10.3 B | 1.8 J |

# APPENDIX L

# ANALYTICAL DATA

# SITE 7

TABLE L-1

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 7SS1010100 | 7SS1020100 | 7SS1020300 | 7SS1030100 | 7SS1040100 | 7SS1050100 | 7SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/20/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 3190 | 5500 | 4730 | 3320 | 4590 | 8870 | 3940 |
| ANTIMONY | 0.60 UL | 0.57 UL | 0.57 UL | 0.59 UL | 0.60 UL | 0.60 UL | 0.57 UL |
| ARSENIC | 1.9 K | 2.7 K | 2.3 K | 1.9 K | 2.4 K | 2.3 K | 2.3 K |
| BARIUM | 302 | 39.8 | 35.4 | 12.4 | 39.7 | 53.4 | 474 |
| BERYLLIUM | 0.01 U | 0.07 B | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| CADMIUM | 0.12 B | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U |
| CALCIUM | 104 B | 232 | 279 | 296 | 196 B | 785 | 365 |
| CHROMIUM | 8.3 | 12.0 | 10.2 | 7.5 | 9.8 J | 16.7 | 10.1 |
| COBALT | 0.92 B | 2.8 | 2.6 | 1.9 | 2.3 | 9.9 | 1.9 |
| COPPER | 32.3 | 24.0 | 24.3 | 3.6 | 28.3 | 13.0 | 10.6 |
| CYANIDE | 0.15 UL | 0.14 UL | 0.14 UL | 0.14 UL | 0.14 U | 0.15 UL | 0.14 UL |
| IRON | 4380 | 7840 | 7360 | 4810 | 7590 J | 13000 | 6020 |
| LEAD | 42.1 | 18.5 | 18.3 | 13.2 | 19.6 | 26.3 | 39.4 |
| MAGNESIUM | 264 | 832 | 928 | 429 | 554 | 1830 | 337 |
| MANGANESE | 161 | 91.7 | 87.4 | 100 | 58.6 J | 562 | 140 |
| MERCURY | 0.17 | 0.05 U | 0.05 U | 0.05 U | 0.10 | 0.07 | 0.10 |
| NICKEL | 5.2 | 9.5 | 11.3 | 4.3 | 5.4 | 19.1 | 3.3 |
| POTASSIUM | 92.6 | 227 | 207 | 164 | 193 | 967 | 167 |
| SELENIUM | 1.1 B | 1.0 B | 0.86 B | 0.59 UJ | 0.60 UL | 1.7 B | 0.57 UJ |
| SILVER | 2.4 | 0.14 U | 0.14 U | 0.15 U | 0.15 U | 0.15 U | 0.41 B |
| SODIUM | 17.8 U | 61.1 B | 75.3 B | 41.0 B | 19.5 B | 34.7 B | 37.5 B |
| THALLIUM | 1.2 U | 1.1 U | 1.1 U | 1.2 U | 1.2 U | 1.5 B | 1.1 U |
| VANADIUM | 11.8 | 15.2 | 13.8 | 12.2 | 13.7 | 22.8 | 13.5 |
| ZINC | 73.8 J | 32.2 J | 28.6 J | 19.3 J | 25.0 J | 45.6 J | 22.1 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 1,2-DICHLOROBENZENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 1,3-DICHLOROBENZENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 1,4-DICHLOROBENZENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2,4,5-TRICHLOROPHENOL | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| 2,4,6-TRICHLOROPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2,4-DICHLOROPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2,4-DIMETHYLPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2,4-DINITROPHENOL | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| 2,4-DINITROTOLUENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2,6-DINITROTOLUENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |

TABLE L-1

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 7SS1010100 | 7SS1020100 | 7SS1020300 | 7SS1030100 | 7SS1040100 | 7SS1050100 | 7SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/20/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2-CHLOROPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2-METHYLNAPHTHALENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2-METHYLPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 2-NITROANILINE | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| 2-NITROPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 3,3'-DICHLOROBENZIDINE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 3-NITROANILINE | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| 4,6-DINITRO-2-METHYLPHENOL | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| 4-BROMOPHENYL PHENYL ETHER | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 4-CHLORO-3-METHYLPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 4-CHLOROANILINE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 4-CHLOROPHENYL PHENYL ETHER | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 4-METHYLPHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| 4-NITROANILINE | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| 4-NITROPHENOL | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| ACENAPHTHENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| ACENAPHTHYLENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| ANTHRACENE | 360 UL | 66 J | 56 J | 350 U | 350 UJ | 360 U | 340 U |
| BENZO(A)ANTHRACENE | 44 L | 360 | 380 | 350 U | 350 UJ | 360 U | 340 U |
| BENZO(A)PYRENE | 43 L | 290 J | 350 | 350 U | 350 UJ | 360 U | 340 U |
| BENZO(B)FLUORANTHENE | 74 L | 470 | 540 | 350 U | 350 UJ | 360 U | 340 U |
| BENZO(G,H,I)PERYLENE | 360 UL | 81 J | 78 J | 350 U | 350 UJ | 360 U | 340 U |
| BENZO(K)FLUORANTHENE | 360 UL | 190 J | 220 J | 350 U | 350 UJ | 360 U | 340 U |
| BIS(2-CHLOROETHOXY)METHANE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| BIS(2-CHLOROETHYL)ETHER | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| BUTYLBENZYL PHTHALATE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| CARBAZOLE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| CHRYSENE | 49 L | 350 | 420 | 350 U | 350 UJ | 360 U | 340 U |
| DI-N-BUTYL PHTHALATE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| DI-N-OCTYL PHTHALATE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| DIBENZO(A,H)ANTHRACENE | 360 UL | 36 J | 47 J | 350 U | 350 UJ | 360 U | 340 U |
| DIBENZOFURAN | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| DIETHYL PHTHALATE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| DIMETHYL PHTHALATE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| FLUORANTHENE | 110 L | 850 | 950 | 350 U | 350 UJ | 42 J | 340 U |
| FLUORENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |

TABLE L-1

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 7SS1010100 | 7SS1020100 | 7SS1020300 | 7SS1030100 | 7SS1040100 | 7SS1050100 | 7SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/20/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| HEXACHLOROBUTADIENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| HEXACHLOROCYCLOPENTADIENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| HEXACHLOROETHANE | 360 UL | 340 U | 340 U | 350 U | 70 J | 360 U | 340 U |
| INDENO(1,2,3-CD)PYRENE | 360 UL | 150 J | 150 J | 350 U | 350 UJ | 360 U | 340 U |
| ISOPHORONE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| N-NITROSO-DI-N-PROPYLAMINE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| N-NITROSODIPHENYLAMINE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| NAPHTHALENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| NITROBENZENE | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| PENTACHLOROPHENOL | 860 UL | 820 U | 820 U | 840 U | 850 UJ | 860 U | 820 U |
| PHENANTHRENE | 68 L | 480 | 460 | 350 U | 350 UJ | 360 U | 340 U |
| PHENOL | 360 UL | 340 U | 340 U | 350 U | 350 UJ | 360 U | 340 U |
| PYRENE | 59 L | 570 | 580 | 350 U | 350 UJ | 360 U | 340 U |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,1-DICHLOROETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,1-DICHLOROETHENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,2-DICHLOROETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 1,2-DICHLOROPROPANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 2-BUTANONE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 2-HEXANONE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| 4-METHYL-2-PENTANONE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| ACETONE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| BENZENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| BROMODICHLOROMETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| BROMOFORM | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| BROMOMETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CARBON DISULFIDE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CARBON TETRACHLORIDE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CHLOROBENZENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CHLORODIBROMOMETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CHLOROETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CHLOROFORM | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| CHLOROMETHANE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |

TABLE L-1

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 7SS1010100 | 7SS1020100 | 7SS1020300 | 7SS1030100 | 7SS1040100 | 7SS1050100 | 7SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/20/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| ETHYLBENZENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| METHYLENE CHLORIDE | 11 U | 10 U | 13 | 10 U | 11 U | 11 U | 10 U |
| STYRENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| TETRACHLOROETHENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| TOLUENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| TRICHLOROETHENE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| VINYL CHLORIDE | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| XYLENES, TOTAL | 11 U | 10 U | 10 U | 10 U | 11 U | 11 U | 10 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | 0.049 R | 34 U | 34 U | 0.58 R | 3.5 UJ | 18 U | 3.4 U |
| 4,4'-DDE | 0.47 R | 34 U | 34 U | 0.37 J | 3.5 UJ | 18 U | 0.51 J |
| 4,4'-DDT | 3.6 U | 34 UR | 34 U | 0.49 J | 3.5 UJ | 18 U | 3.4 U |
| ALDRIN | 1.8 U | 17 U | 17 U | 1.8 U | 1.8 UJ | 9.0 U | 1.7 U |
| ALPHA-BHC | 1.8 U | 17 U | 17 U | 1.8 U | 1.8 UJ | 9.0 U | 1.7 U |
| ALPHA-CHLORDANE | 2.8 J | 17 U | 17 U | 1.9 | 1.8 UJ | 0.39 R | 1.7 U |
| AROCLOR-1016 | 36 U | 340 U | 340 U | 35 U | 35 UJ | 180 U | 34 U |
| AROCLOR-1221 | 72 U | 680 U | 680 U | 70 U | 71 UJ | 360 U | 68 U |
| AROCLOR-1232 | 36 U | 340 U | 340 U | 35 U | 35 UJ | 180 U | 34 U |
| AROCLOR-1242 | 36 U | 340 U | 340 U | 35 U | 35 UJ | 180 U | 34 U |
| AROCLOR-1248 | 36 U | 340 U | 340 U | 35 U | 35 UJ | 180 U | 34 U |
| AROCLOR-1254 | 36 U | 340 U | 340 U | 35 U | 35 UJ | 180 U | 34 U |
| AROCLOR-1260 | 130 | 340 U | 340 U | 7.5 J | 35 UJ | 380 | 34 U |
| BETA-BHC | 1.8 U | 17 U | 17 U | 1.8 U | 1.8 UJ | 9.0 U | 1.7 U |
| DELTA-BHC | 1.8 U | 17 U | 17 U | 1.8 U | 1.8 UJ | 9.0 U | 1.7 U |
| DIELDRIN | 1.7 R | 34 U | 34 U | 0.27 J | 3.5 UJ | 18 U | 0.29 J |
| ENDOSULFAN I | 0.66 R | 17 U | 17 U | 1.8 U | 1.8 UJ | 0.50 R | 1.7 U |
| ENDOSULFAN II | 3.6 U | 34 U | 34 U | 3.5 U | 3.5 UJ | 18 U | 3.4 U |
| ENDOSULFAN SULFATE | 3.6 U | 34 U | 34 U | 3.5 U | 3.5 UJ | 18 U | 3.4 U |
| ENDRIN | 3.6 U | 34 U | 34 U | 3.5 U | 3.5 UJ | 18 U | 3.4 U |
| ENDRIN ALDEHYDE | 4.7 R | 34 U | 34 U | 3.5 U | 3.5 UJ | 18 U | 3.4 U |
| ENDRIN KETONE | 3.6 U | 34 U | 34 U | 3.5 U | 3.5 UJ | 18 U | 3.4 U |
| GAMMA-BHC (LINDANE) | 1.8 U | 17 U | 17 U | 1.8 U | 1.8 UJ | 9.0 U | 1.7 U |
| GAMMA-CHLORDANE | 1.8 U | 17 U | 17 U | 0.91 J | 1.8 UJ | 9.0 U | 1.7 U |
| HEPTACHLOR | 0.034 R | 17 U | 17 U | 1.8 U | 1.8 UJ | 9.0 U | 0.051 R |
| HEPTACHLOR EPOXIDE | 0.64 R | 17 U | 17 U | 0.82 J | 1.8 UJ | 9.0 U | 1.7 U |
| METHOXYCHLOR | 3.6 R | 4.4 R | 6.0 R | 0.83 R | 18 UJ | 90 U | 17 U |

TABLE L-1

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 7SS1010100 | 7SS1020100 | 7SS1020300 | 7SS1030100 | 7SS1040100 | 7SS1050100 | 7SS1060100 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/20/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOXAPHENE | 180 U | 1700 U | 1700 U | 180 U | 180 UJ | 900 U | 170 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 7.1 J | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.039 J |
| 2,6 DINITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 860 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.61 |
| NITROBENZENE | 25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.31 |
| RDX | 42 J | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.83 |
| TETRYL | 65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | 50 UL | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | 21 U | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | 120 | N/A | N/A | N/A |
| FERROUS IRON mg/kg | N/A | N/A | N/A | 10.5 UR | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | 1.1 U | N/A | N/A | N/A |
| PH | N/A | N/A | N/A | 4.8 | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | 6300 | N/A | N/A | N/A |

TABLE L-2

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 7SU1010200 | 7SU1020200 | 7SU1030200 | 7SU1040200 | 7SU1050200 | 7SU1060200 |
|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/23/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 4.0 | 2.0 - 4.0 | 2.0 - 4.0 | 1.8 - 2.3 | 1.8 - 2.0 | 2.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | |
| ALUMINUM | 9480 | 7310 | 783 | 2710 | 7660 | 7870 |
| ANTIMONY | 0.60 UL | 0.59 UL | 0.57 UL | 0.58 UL | 0.63 B | 0.60 UL |
| ARSENIC | 4.4 | 4.0 K | 0.61 K | 1.9 K | 3.4 K | 2.8 K |
| BARIUM | 330 | 48.6 | 2.6 | 25.4 | 50.2 | 307 |
| BERYLLIUM | 0.04 B | 0.06 B | 0.01 U | 0.01 U | 0.05 B | 0.57 B |
| CADMIUM | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U | 0.04 U |
| CALCIUM | 271 | 368 | 62.9 B | 147 J | 353 J | 322 |
| CHROMIUM | 14.1 | 14.5 | 2.3 | 5.3 J | 12.1 J | 9.8 |
| COBALT | 3.6 | 2.3 | 0.25 B | 1.2 | 3.7 | 4.4 |
| COPPER | 11.8 | 12.7 | 1.2 B | 7.0 | 5.9 | 4.4 |
| CYANIDE | 0.15 UL | 0.14 UL | 0.14 UL | 0.14 U | 0.14 U | 0.14 UL |
| IRON | 10200 | 12000 | 1030 | 4280 J | 10400 J | 8850 |
| LEAD | 20.9 | 5.7 | 1.8 B | 7.3 | 11.9 | 7.9 |
| MAGNESIUM | 788 | 501 | 47.8 B | 238 | 679 | 615 |
| MANGANESE | 222 | 53.6 | 7.5 | 41.9 J | 236 J | 782 |
| MERCURY | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| NICKEL | 6.9 | 5.2 | 0.88 B | 2.3 | 7.3 | 6.4 |
| POTASSIUM | 426 | 281 | 45.5 B | 129 | 389 | 239 |
| SELENIUM | 1.9 B | 3.2 J | 0.57 UJ | 0.58 UL | 0.60 UL | 1.1 B |
| SILVER | 0.15 U | 0.15 U | 0.14 U | 0.15 U | 0.15 U | 0.15 U |
| SODIUM | 29.7 B | 53.1 B | 27.8 B | 52.6 B | 36.9 B | 44.2 B |
| THALLIUM | 1.2 U | 1.2 U | 1.1 U | 1.2 U | 1.2 U | 1.2 U |
| VANADIUM | 22.0 | 22.3 | 2.9 | 7.7 | 18.8 | 18.0 |
| ZINC | 46.6 J | 18.6 J | 5.2 J | 12.2 B | 24.7 J | 19.8 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 1,2-DICHLOROBENZENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 1,3-DICHLOROBENZENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 1,4-DICHLOROBENZENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2,4,5-TRICHLOROPHENOL | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| 2,4,6-TRICHLOROPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2,4-DICHLOROPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2,4-DIMETHYLPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2,4-DINITROPHENOL | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| 2,4-DINITROTOLUENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2,6-DINITROTOLUENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |

TABLE L-2

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 7SU1010200 | 7SU1020200 | 7SU1030200 | 7SU1040200 | 7SU1050200 | 7SU1060200 |
|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/23/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 4.0 | 2.0 - 4.0 | 2.0 - 4.0 | 1.8 - 2.3 | 1.8 - 2.0 | 2.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLORONAPHTHALENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2-CHLOROPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2-METHYLNAPHTHALENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2-METHYLPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 2-NITROANILINE | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| 2-NITROPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 3,3'-DICHLOROBENZIDINE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 3-NITROANILINE | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| 4,6-DINITRO-2-METHYLPHENOL | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| 4-BROMOPHENYL PHENYL ETHER | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 4-CHLORO-3-METHYLPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 4-CHLOROANILINE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 4-CHLOROPHENYL PHENYL ETHER | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 4-METHYLPHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| 4-NITROANILINE | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| 4-NITROPHENOL | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| ACENAPHTHENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| ACENAPHTHYLENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| ANTHRACENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BENZO(A)ANTHRACENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BENZO(A)PYRENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BENZO(B)FLUORANTHENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BENZO(G,H,I)PERYLENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BENZO(K)FLUORANTHENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BIS(2-CHLOROETHOXY)METHANE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BIS(2-CHLOROETHYL)ETHER | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| BUTYLBENZYL PHTHALATE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| CARBAZOLE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| CHRYSENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| DI-N-BUTYL PHTHALATE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| DI-N-OCTYL PHTHALATE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| DIBENZO(A,H)ANTHRACENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| DIBENZOFURAN | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| DIETHYL PHTHALATE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| DIMETHYL PHTHALATE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| FLUORANTHENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| FLUORENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |

TABLE L-2

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 7SU1010200 | 7SU1020200 | 7SU1030200 | 7SU1040200 | 7SU1050200 | 7SU1060200 |
|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/23/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 4.0 | 2.0 - 4.0 | 2.0 - 4.0 | 1.8 - 2.3 | 1.8 - 2.0 | 2.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROBENZENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| HEXACHLOROBUTADIENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| HEXACHLOROCYCLOPENTADIENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| HEXACHLOROETHANE | 350 U | 350 U | 330 U | 120 J | 95 J | 350 U |
| INDENO(1,2,3-CD)PYRENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| ISOPHORONE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| N-NITROSO-DI-N-PROPYLAMINE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| N-NITROSODIPHENYLAMINE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| NAPHTHALENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| NITROBENZENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| PENTACHLOROPHENOL | 840 U | 840 U | 810 U | 830 UJ | 860 UJ | 860 U |
| PHENANTHRENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| PHENOL | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| PYRENE | 350 U | 350 U | 330 U | 340 UJ | 350 UJ | 350 U |
| **VOLATILES (ug/kg)** | | | | | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,1,2,2-TETRACHLOROETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,1-DICHLOROETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,1-DICHLOROETHENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,2-DICHLOROETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,2-DICHLOROETHENE (TOTAL) | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 1,2-DICHLOROPROPANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 2-BUTANONE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 2-HEXANONE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| 4-METHYL-2-PENTANONE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| ACETONE | 10 U | 10 U | 10 U | 10 U | 11 U | 20 J |
| BENZENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| BROMODICHLOROMETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| BROMOFORM | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| BROMOMETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CARBON DISULFIDE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CARBON TETRACHLORIDE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CHLOROBENZENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CHLORODIBROMOMETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CHLOROETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CHLOROFORM | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| CHLOROMETHANE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |

TABLE L-2

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 7SU1010200 | 7SU1020200 | 7SU1030200 | 7SU1040200 | 7SU1050200 | 7SU1060200 |
|---|---|---|---|---|---|---|
| LOCATION: | 7SB101/7GW101 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/23/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | 2.0 - 4.0 | 2.0 - 4.0 | 2.0 - 4.0 | 1.8 - 2.3 | 1.8 - 2.0 | 2.0 - 4.0 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CIS-1,3-DICHLOROPROPENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| ETHYLBENZENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| METHYLENE CHLORIDE | 2 J | 2 J | 10 U | 10 U | 11 U | 11 U |
| STYRENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| TETRACHLOROETHENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| TOLUENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| TRANS-1,3-DICHLOROPROPENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| TRICHLOROETHENE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| VINYL CHLORIDE | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| XYLENES, TOTAL | 10 U | 10 U | 10 U | 10 U | 11 U | 11 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | |
| 4,4'-DDD | 2.6 R | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| 4,4'-DDE | 3.5 U | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| 4,4'-DDT | 3.5 U | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| ALDRIN | 1.7 U | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| ALPHA-BHC | 1.7 U | 0.096 R | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| ALPHA-CHLORDANE | 17 | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| AROCLOR-1016 | 35 U | 35 U | 34 U | 34 UJ | 35 UJ | 36 U |
| AROCLOR-1221 | 70 U | 70 U | 67 U | 70 UJ | 72 UJ | 71 U |
| AROCLOR-1232 | 35 U | 35 U | 34 U | 34 UJ | 35 UJ | 36 U |
| AROCLOR-1242 | 35 U | 35 U | 34 U | 34 UJ | 35 UJ | 36 U |
| AROCLOR-1248 | 35 U | 35 U | 34 U | 34 UJ | 35 UJ | 36 U |
| AROCLOR-1254 | 35 U | 35 U | 34 U | 34 UJ | 35 UJ | 36 U |
| AROCLOR-1260 | 35 U | 35 U | 34 U | 34 UJ | 39 J | 36 U |
| BETA-BHC | 1.7 U | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| DELTA-BHC | 1.7 U | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| DIELDRIN | 5.4 R | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| ENDOSULFAN I | 3.6 | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| ENDOSULFAN II | 3.5 U | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| ENDOSULFAN SULFATE | 3.5 U | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| ENDRIN | 3.5 U | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| ENDRIN ALDEHYDE | 1.2 R | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| ENDRIN KETONE | 3.5 U | 3.5 U | 3.4 U | 3.4 UJ | 3.5 UJ | 3.6 U |
| GAMMA-BHC (LINDANE) | 1.7 U | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| GAMMA-CHLORDANE | 18 | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| HEPTACHLOR | 0.74 R | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| HEPTACHLOR EPOXIDE | 0.57 R | 1.8 U | 1.7 U | 1.8 UJ | 1.8 UJ | 1.8 U |
| METHOXYCHLOR | 2.3 J | 18 U | 17 U | 18 UJ | 18 UJ | 18 U |

TABLE L-2

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | | 7SU1010200 | 7SU1020200 | 7SU1030200 | 7SU1040200 | 7SU1050200 | 7SU1060200 |
|---|---|---|---|---|---|---|---|
| LOCATION: | | 7SB101/7GW101 | 7SB102 | 7SB103 | 7SB104 | 7SB105 | 7SB106 |
| SAMPLE DATE: | | 11/20/98 | 11/20/98 | 11/20/98 | 11/23/98 | 11/23/98 | 11/20/98 |
| DEPTH INTERVAL (FEET): | | 2.0 - 4.0 | 2.0 - 4.0 | 2.0 - 4.0 | 1.8 - 2.3 | 1.8 - 2.0 | 2.0 - 4.0 |
| VALIDATION STATUS: | | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TOTAL PCB | | 35 U | 35 U | 34 U | 34 UJ | 39 | 36 U |
| TOXAPHENE | | 170 U | 180 U | 170 U | 180 UJ | 180 UJ | 180 U |
| **EXPLOSIVES (mg/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4 DINITROTOLUENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | | 14 | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | | 2.3 J | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | | 0.84 J | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | | 6.3 | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | | 44 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | | 2.5 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | | 9.9 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.17 J |
| TETRYL | | 0.77 J | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE | mg/kg | N/A | N/A | 50 UL | N/A | N/A | N/A |
| BOD-5DAY (TOTAL) | mg/kg | N/A | N/A | 20 U | N/A | N/A | N/A |
| CHEMICAL OXYGEN DEMAND | mg/L | N/A | N/A | 10 U | N/A | N/A | N/A |
| FERROUS IRON | mg/kg | N/A | N/A | 2 UR | N/A | N/A | N/A |
| HEXAVALENT CHROMIUM | mg/kg | N/A | N/A | 0.71 B | N/A | N/A | N/A |
| PH | | N/A | N/A | 5.4 | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON | mg/kg | N/A | N/A | 290 | N/A | N/A | N/A |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW080001 | 7GW410001 | 7GW410001-D | 7GW420001 | 7GW430001 | 7GW1010001 | 7GW1020001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7GW08 | 7GW41 | 7GW41 | 7PZ42 | 7GW43 | 7GW101 | 7GW102 |
| SAMPLE DATE: | 01/26/99 | 01/23/99 | 01/23/99 | 01/27/99 | 02/01/99 | 01/26/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | | 7GW410001-D | 7GW410001 | | | | 7GW1020001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | |
| ALUMINUM | 191 B | 554 K | 314 K | 390 B | 251 B | 202 B | 1010 K |
| ANTIMONY | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 26.7 B | 19.6 U |
| ARSENIC | 1.5 U | 1.5 U | 2.8 | 1.5 U | 1.5 U | 1.5 U | 1.9 |
| BARIUM | 40.7 | 53.9 | 53.8 | 63.8 | 48.2 | 46.2 | 54.2 |
| BERYLLIUM | 0.20 B | 0.11 B | 0.10 U | 0.18 B | 0.27 B | 0.20 B | 0.14 B |
| CADMIUM | 2.7 U | 2.7 UL | 2.7 UL | 2.7 U | 2.7 U | 2.7 U | 2.7 UL |
| CALCIUM | 4380 | 16000 | 16400 | 8990 | 4760 | 4640 | 11000 |
| CHROMIUM | 26.5 | 22.4 | 9.6 | 3.2 B | 18.2 K | 10.0 B | 51.5 |
| COBALT | 6.5 B | 21.8 | 9.0 | 11.1 B | 10.8 B | 3.6 B | 13.5 |
| COPPER | 10.8 B | 9.1 B | 7.4 B | 4.8 B | 6.8 B | 5.4 B | 8.9 B |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 906 | 3060 J | 2350 J | 704 | 1740 | 2860 | 3780 J |
| LEAD | 3.1 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 4350 | 11200 | 11400 | 9110 | 6730 | 5110 | 9120 |
| MANGANESE | 26.4 | 111 | 109 | 106 | 139 | 37.8 | 126 |
| MERCURY | 0.20 U | 3.7 | 3.8 | 5.5 | 0.55 | 0.20 U | 1.2 |
| NICKEL | 153 | 7.7 | 7.5 U | 7.5 U | 15.3 | 14.4 | 32.2 |
| POTASSIUM | 1830 B | 1490 | 1500 | 1480 B | 2200 B | 1940 B | 1330 |
| SELENIUM | 2.5 UL | 4.9 J | 4.1 J | 2.5 UL | 2.5 UL | 2.5 UL | 3.4 J |
| SILVER | 2.8 U | 2.8 UL | 2.8 UL | 2.8 U | 3.0 B | 4.0 B | 2.8 UL |
| SODIUM | 3890 | 10800 | 10800 | 11800 | 15800 | 5650 | 11400 |
| THALLIUM | 2.9 U | 3.8 | 2.9 U | 2.9 U | 2.9 U | 2.9 U | 3.2 |
| VANADIUM | 5.1 B | 3.9 B | 3.9 B | 2.4 B | 2.1 U | 3.8 B | 9.2 B |
| ZINC | 11.0 B | 14.4 | 20.6 | 10.6 B | 8.6 B | 18.9 K | 16.6 |
| **SEMIVOLATILES (ug/L)** | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 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 | 1.3 J | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 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 |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW080001 | 7GW410001 | 7GW410001-D | 7GW420001 | 7GW430001 | 7GW1010001 | 7GW1020001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7GW08 | 7GW41 | 7GW41 | 7PZ42 | 7GW43 | 7GW101 | 7GW102 |
| SAMPLE DATE: | 01/26/99 | 01/23/99 | 01/23/99 | 01/27/99 | 02/01/99 | 01/26/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | | 7GW410001-D | 7GW410001 | | | | 7GW1020001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 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 PHENYL ETHER | 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 PHENYL ETHER | 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 |
| 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 | 1.1 J | 5 U | 5 U |
| BUTYLBENZYL PHTHALATE | 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-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 1.1 J |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(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 |
| DIETHYL PHTHALATE | 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 |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW080001 | 7GW410001 | 7GW410001-D | 7GW420001 | 7GW430001 | 7GW1010001 | 7GW1020001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7GW08 | 7GW41 | 7GW41 | 7PZ42 | 7GW43 | 7GW101 | 7GW102 |
| SAMPLE DATE: | 01/26/99 | 01/23/99 | 01/23/99 | 01/27/99 | 02/01/99 | 01/26/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | | 7GW410001-D | 7GW410001 | | | | 7GW1020001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 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 |
| 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 | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 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 |
| **VOLATILES (ug/L)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1.2 | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 77 | 69 | 1 U | 6.5 | 1 U | 39 |
| 1,1,2-TRICHLOROETHANE | 1 U | 1.3 | 20 U | 1 U | 0.46 J | 1 U | 10 U |
| 1,1-DICHLOROETHANE | 1 U | 0.41 J | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,1-DICHLOROETHENE | 1 U | 0.3 J | 20 U | 1 U | 1.5 | 1 U | 10 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 20 UR | 1 UR | 1 UR | 1 UR | 10 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,2-DICHLOROETHANE | 1 U | 1.8 | 20 U | 1 U | 0.93 J | 1 U | 10 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,3 DICHLOROBENZENE | 1 U | 0.35 J | 20 U | 1 U | 1 U | 1 U | 10 U |
| 1,4 DICHLOROBENZENE | 1 U | 0.26 J | 20 U | 1 U | 1 U | 1 U | 10 U |
| 2-BUTANONE | 5 U | 5 U | 100 U | 5 U | 5 U | 5 U | 50 U |
| 2-HEXANONE | 5 U | 5 U | 100 U | 5 U | 5 U | 5 U | 50 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 100 U | 5 U | 5 U | 5 U | 50 U |
| ACETONE | 5 UR | 5 UR | 100 UR | 1.9 B | 5 UR | 2.4 B | 50 UR |
| BENZENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| BROMOFORM | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| BROMOMETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| CARBON DISULFIDE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| CHLOROBENZENE | 1 U | 1 U | 20 U | 1 U | 0.42 J | 1 U | 10 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| CHLOROETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| CHLOROFORM | 0.58 J | 0.47 J | 20 U | 1 U | 1.2 | 0.32 J | 10 U |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW080001 | 7GW410001 | 7GW410001-D | 7GW420001 | 7GW430001 | 7GW1010001 | 7GW1020001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7GW08 | 7GW41 | 7GW41 | 7PZ42 | 7GW43 | 7GW101 | 7GW102 |
| SAMPLE DATE: | 01/26/99 | 01/23/99 | 01/23/99 | 01/27/99 | 02/01/99 | 01/26/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | | 7GW410001-D | 7GW410001 | | | | 7GW1020001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 43 | 38 | 1 U | 39 | 1 U | 27 |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| ETHYLBENZENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 40 U | 2 U | 2 U | 2 U | 20 U |
| STYRENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| TETRACHLOROETHENE | 1 U | 0.63 J | 20 U | 1 U | 0.53 J | 1 U | 10 U |
| TOLUENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 0.34 J | 20 U | 1 U | 0.46 J | 1 U | 10 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| TRICHLOROETHENE | 1 U | 370 | 350 | 1.6 | 370 | 1 U | 240 |
| VINYL CHLORIDE | 1 U | 1.6 | 20 U | 1 U | 0.36 J | 1 U | 10 U |
| XYLENES, TOTAL | 1 U | 1 U | 20 U | 1 U | 1 U | 1 U | 10 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | |
| 4,4'-DDD | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| 4,4'-DDE | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| 4,4'-DDT | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| ALDRIN | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| ALPHA-BHC | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| ALPHA-CHLORDANE | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| AROCLOR-1016 | 1.1 U | 1.0 U | 1.0 U | 1.1 UJ | 1.0 U | 1.2 U | 1.1 U |
| AROCLOR-1221 | 2.2 U | 2.0 U | 2.0 U | 2.2 UJ | 2.1 U | 2.3 U | 2.1 U |
| AROCLOR-1232 | 1.1 U | 1.0 U | 1.0 U | 1.1 UJ | 1.0 U | 1.2 U | 1.1 U |
| AROCLOR-1242 | 1.1 U | 1.0 U | 1.0 U | 1.1 UJ | 1.0 U | 1.2 U | 1.1 U |
| AROCLOR-1248 | 1.1 U | 1.0 U | 1.0 U | 1.1 UJ | 1.0 U | 1.2 U | 1.1 U |
| AROCLOR-1254 | 1.1 U | 1.0 U | 1.0 U | 1.1 UJ | 1.0 U | 1.2 U | 1.1 U |
| AROCLOR-1260 | 1.1 U | 1.0 U | 1.0 U | 1.1 UJ | 1.0 U | 1.2 U | 1.1 U |
| BETA-BHC | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| DELTA-BHC | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| DIELDRIN | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| ENDOSULFAN I | 0.11 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| ENDOSULFAN II | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| ENDOSULFAN SULFATE | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| ENDRIN | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| ENDRIN ALDEHYDE | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| ENDRIN KETONE | 0.11 U | 0.10 U | 0.10 U | 0.11 UJ | 0.10 U | 0.12 U | 0.11 U |
| GAMMA-BHC (LINDANE) | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 | 0.054 U |
| GAMMA-CHLORDANE | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW080001 | 7GW410001 | 7GW410001-D | 7GW420001 | 7GW430001 | 7GW1010001 | 7GW1020001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7GW08 | 7GW41 | 7GW41 | 7PZ42 | 7GW43 | 7GW101 | 7GW102 |
| SAMPLE DATE: | 01/26/99 | 01/23/99 | 01/23/99 | 01/27/99 | 02/01/99 | 01/26/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | | 7GW410001-D | 7GW410001 | | | | 7GW1020001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| HEPTACHLOR EPOXIDE | 0.054 U | 0.050 U | 0.050 U | 0.056 UJ | 0.052 U | 0.058 U | 0.054 U |
| METHOXYCHLOR | 0.54 U | 0.50 U | 0.50 U | 0.56 UJ | 0.52 U | 0.58 U | 0.54 U |
| TOXAPHENE | 5.4 U | 5.0 U | 5.0 U | 5.6 UJ | 5.2 U | 5.8 U | 5.4 U |
| **EXPLOSIVES (ug/L)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 210 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 62 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 110 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 | 0.20 U |
| 4-NITROTOLUENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 130 | 0.50 U | 0.50 U | 0.50 U | 0.57 | 2.9 | 0.50 U |
| NITROBENZENE | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 510 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 2.7 | 1.6 |
| TETRYL | 10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | |
| AMMONIUM PERCHLORATE | 15.3 | 5.27 L | 5 UL | 5 U | 5 U | 5.19 | 5 UL |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW1020001-D | 7GW1030001 | 7GW1040001 | 7GW1050001 |
|---|---|---|---|---|
| LOCATION: | 7GW102 | 7GW103 | 7GW104 | 7GW105 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/27/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | 7GW1020001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | |
| ALUMINUM | 419 K | 220 K | 524 | 95.2 B |
| ANTIMONY | 19.6 U | 19.6 U | 19.6 U | 19.6 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 54.9 | 52.8 | 18.6 | 45.4 |
| BERYLLIUM | 0.10 U | 0.12 B | 0.20 B | 0.10 U |
| CADMIUM | 2.7 UL | 2.7 UL | 2.7 U | 2.7 UL |
| CALCIUM | 11300 | 4500 | 3410 | 5120 |
| CHROMIUM | 59.0 | 7.1 | 2.6 B | 4.0 |
| COBALT | 25.0 | 20.5 | 4.6 B | 16.6 |
| COPPER | 6.1 B | 4.8 B | 4.4 B | 7.3 B |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 2030 J | 723 J | 460 | 80.2 B |
| LEAD | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 9460 | 5380 J | 2390 | 6170 |
| MANGANESE | 125 | 45.1 J | 20.4 | 26.3 |
| MERCURY | 1.0 | 0.81 | 0.20 U | 0.20 U |
| NICKEL | 41.4 | 7.5 U | 7.5 U | 7.5 U |
| POTASSIUM | 1300 | 1150 | 2320 B | 1420 |
| SELENIUM | 3.4 J | 2.8 J | 2.5 UL | 2.5 UJ |
| SILVER | 2.8 UL | 2.8 UL | 2.8 U | 2.8 UL |
| SODIUM | 11600 | 8770 J | 3680 | 5600 |
| THALLIUM | 2.9 U | 2.9 U | 2.9 U | 5.6 |
| VANADIUM | 4.1 B | 2.1 U | 5.0 B | 2.1 U |
| ZINC | 21.4 | 22.2 | 10.1 B | 2.8 B |
| **SEMIVOLATILES (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 U | 5 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW1020001-D | 7GW1030001 | 7GW1040001 | 7GW1050001 |
|---|---|---|---|---|
| LOCATION: | 7GW102 | 7GW103 | 7GW104 | 7GW105 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/27/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | 7GW1020001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 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 |
| 4-BROMOPHENYL PHENYL ETHER | 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 UR |
| 4-CHLOROPHENYL PHENYL ETHER | 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 |
| 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 | 1.1 J |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 1.9 J | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 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 U | 5 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5 U | 5 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 5 U | 5 U | 5 U |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW1020001-D | 7GW1030001 | 7GW1040001 | 7GW1050001 |
|---|---|---|---|---|
| LOCATION: | 7GW102 | 7GW103 | 7GW104 | 7GW105 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/27/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | 7GW1020001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 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 |
| NAPHTHALENE | 5 U | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | |
| 1,1,1-TRICHLOROETHANE | 10 U | 1 U | 1 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 37 | 1 U | 1 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 10 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 10 U | 1 U | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 10 U | 1 U | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 10 U | 1 U | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 10 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 10 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 10 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 10 U | 1 U | 1 U | 1 U |
| 1,2-DICHLOROPROPANE | 10 U | 1 U | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 10 U | 1 U | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 10 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 50 U | 5 U | 5 U | 5 U |
| 2-HEXANONE | 50 U | 5 U | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 50 U | 5 U | 5 U | 5 U |
| ACETONE | 50 UR | 5 UR | 5 UR | 5 UR |
| BENZENE | 10 U | 1 U | 1 U | 1 U |
| BROMOCHLOROMETHANE | 10 U | 1 U | 1 U | 1 U |
| BROMODICHLOROMETHANE | 10 U | 1 U | 1 U | 1 U |
| BROMOFORM | 10 U | 1 U | 1 U | 1 U |
| BROMOMETHANE | 10 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 10 U | 1 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 10 U | 1 U | 1 U | 1 U |
| CHLOROBENZENE | 10 U | 1 U | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 10 U | 1 U | 1 U | 1 U |
| CHLOROETHANE | 10 U | 1 U | 1 U | 1 U |
| CHLOROFORM | 10 U | 0.4 J | 1.8 | 1 U |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW1020001-D | 7GW1030001 | 7GW1040001 | 7GW1050001 |
|---|---|---|---|---|
| LOCATION: | 7GW102 | 7GW103 | 7GW104 | 7GW105 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/27/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | 7GW1020001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 10 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 21 | 1 U | 1 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 10 U | 1 U | 1 U | 1 U |
| ETHYLBENZENE | 10 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 20 U | 2 U | 2 U | 2 U |
| STYRENE | 10 U | 1 U | 1 U | 1 U |
| TETRACHLOROETHENE | 10 U | 1 U | 1 U | 1 U |
| TOLUENE | 10 U | 1 U | 0.41 J | 1 U |
| TRANS-1,2-DICHLOROETHENE | 10 U | 1 U | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 10 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 160 | 1 U | 1 U | 1 U |
| VINYL CHLORIDE | 10 U | 1 U | 1 U | 1 U |
| XYLENES, TOTAL | 10 U | 1 U | 0.49 J | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | |
| 4,4'-DDD | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| 4,4'-DDE | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| 4,4'-DDT | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| ALDRIN | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| ALPHA-BHC | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| ALPHA-CHLORDANE | 0.054 U | 0.052 U | 0.056 UJ | 0.052 J |
| AROCLOR-1016 | 1.1 U | 1.0 U | 1.1 UJ | 1.0 U |
| AROCLOR-1221 | 2.2 U | 2.1 U | 2.2 UJ | 2.0 U |
| AROCLOR-1232 | 1.1 U | 1.0 U | 1.1 UJ | 1.0 U |
| AROCLOR-1242 | 1.1 U | 1.0 U | 1.1 UJ | 1.0 U |
| AROCLOR-1248 | 1.1 U | 1.0 U | 1.1 UJ | 1.0 U |
| AROCLOR-1254 | 1.1 U | 1.0 U | 1.1 UJ | 1.0 U |
| AROCLOR-1260 | 1.1 U | 1.0 U | 1.1 UJ | 1.0 U |
| BETA-BHC | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| DELTA-BHC | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| DIELDRIN | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| ENDOSULFAN I | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| ENDOSULFAN II | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| ENDOSULFAN SULFATE | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| ENDRIN | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| ENDRIN ALDEHYDE | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| ENDRIN KETONE | 0.11 U | 0.10 U | 0.11 UJ | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| GAMMA-CHLORDANE | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |

TABLE L-3

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 7GW1020001-D | 7GW1030001 | 7GW1040001 | 7GW1050001 |
|---|---|---|---|---|
| LOCATION: | 7GW102 | 7GW103 | 7GW104 | 7GW105 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/27/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | 7GW1020001 | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.054 U | 0.052 U | 0.056 UJ | 0.050 U |
| METHOXYCHLOR | 0.54 U | 0.52 U | 0.56 UJ | 0.50 U |
| TOXAPHENE | 5.0 U | 5.2 U | 5.6 UJ | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 2.3 | 10 U | 0.60 U |
| 1,3-DINITROBENZENE | 0.20 U | 1 U | 10 U | 0.60 U |
| 2,4 DINITROTOLUENE | 0.20 U | 1 U | 10 U | 0.60 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 34 | 110 | 2.2 |
| 2,6 DINITROTOLUENE | 0.20 U | 1 U | 10 U | 0.60 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 6.6 | 38 | 1.4 |
| 2-NITROTOLUENE | 0.20 U | 1 U | 10 U | 0.60 U |
| 3-NITROTOLUENE | 0.20 U | 1 U | 10 U | 0.60 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 14 | 66 | 1.4 |
| 4-NITROTOLUENE | 0.20 U | 1 U | 10 U | 0.60 U |
| HMX | 0.50 U | 10 | 140 | 4.6 |
| NITROBENZENE | 0.20 U | 1 U | 10 U | 0.60 U |
| RDX | 1.4 | 44 | 270 | 20 |
| TETRYL | 0.20 U | 1 U | 10 U | 0.60 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | |
| AMMONIUM PERCHLORATE | 5 UL | 28.4 L | 11.5 | 9.85 L |

TABLE L-4

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 7GW080001-F | 7GW410001-F | 7GW410001-F-D | 7GW420001-F | 7GW430001-F | 7GW1010001-F | 7GW1020001-F |
|---|---|---|---|---|---|---|---|
| LOCATION: | 7GW08 | 7GW41 | 7GW41 | 7PZ42 | 7GW43 | 7GW101 | 7GW102 |
| SAMPLE DATE: | 01/26/99 | 01/23/99 | 01/23/99 | 01/27/99 | 02/01/99 | 01/26/99 | 01/25/99 |
| ASSOCIATED DUPLICATE: | | 7GW410001-F-D | 7GW410001-F | | | | 7GW1020001-F-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | | | |
| ALUMINUM, FILTERED | 47.2 B | 17.6 B | 18.8 B | 58.9 B | 43 B | 53.6 B | 47.7 B |
| ANTIMONY, FILTERED | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.8 |
| BARIUM, FILTERED | 35 | 53.9 J | 52.7 J | 59.4 | 50.2 | 44.9 | 59.5 J |
| BERYLLIUM, FILTERED | 0.17 B | 0.1 U | 0.1 U | 0.3 B | 0.21 B | 0.27 B | 0.12 B |
| CADMIUM, FILTERED | 3.8 B | 2.7 UL | 2.7 UL | 2.8 B | 2.8 B | 2.7 U | 2.7 UL |
| CALCIUM, FILTERED | 4200 | 16300 J | 16100 J | 8650 | 5120 | 4800 | 13100 J |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 4 B | 2.3 U |
| COBALT, FILTERED | 3.3 U | 8.7 | 9.4 | 12.4 B | 10.1 B | 3.3 U | 19.1 |
| COPPER, FILTERED | 6 B | 3.9 B | 4.3 B | 2.4 U | 2.5 B | 5.4 B | 2.8 B |
| IRON, FILTERED | 180 B | 72.4 B | 76.7 B | 23.7 B | 496 J | 129 B | 1550 J |
| LEAD, FILTERED | 6.6 | 1 U | 1 U | 1 UJ | 1 U | 2.0 B | 1 U |
| MAGNESIUM, FILTERED | 4230 | 11600 J | 11400 J | 8860 | 7070 | 5420 | 10800 J |
| MANGANESE, FILTERED | 20.8 | 112 J | 110 J | 101 | 141 | 30.4 | 152 J |
| MERCURY, FILTERED | 0.2 U | 3.3 | 3.3 | 4.4 | 0.48 | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 36.3 | 7.5 U | 7.5 U | 7.5 U | 11.6 | 14.6 | 13 |
| POTASSIUM, FILTERED | 1770 B | 2010 | 1900 | 1780 B | 2170 B | 2070 B | 1660 |
| SELENIUM, FILTERED | 2.5 UL | 2.5 UJ | 2.5 UJ | 2.5 UL | 2.5 UL | 2.5 UL | 2.5 UJ |
| SILVER, FILTERED | 3.8 B | 2.8 UL | 2.8 UL | 2.8 U | 3.1 B | 4.5 B | 2.8 UL |
| SODIUM, FILTERED | 3190 | 11000 J | 10600 J | 10900 | 16300 | 5260 | 12600 J |
| THALLIUM, FILTERED | 2.9 U | 2.9 U | 3.6 | 2.9 U | 2.9 U | 3.1 | 3.8 |
| VANADIUM, FILTERED | 3.4 B | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 3.7 B | 2.1 U |
| ZINC, FILTERED | 10.4 B | 9.1 B | 9 B | 6.5 B | 32.9 K | 14.9 K | 25.2 |

TABLE L-4

SITE 7
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 7GW1020001-F-D | 7GW1030001-F | 7GW1040001-F |
|---|---|---|---|
| LOCATION: | 7GW102 | 7GW103 | 7GW104 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/27/99 |
| ASSOCIATED DUPLICATE: | 7GW1020001-F | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | |
| ALUMINUM, FILTERED | 44.2 B | 81.3 B | 59.2 B |
| ANTIMONY, FILTERED | 19.6 U | 19.6 U | 19.6 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 51.4 J | 54 J | 17.2 |
| BERYLLIUM, FILTERED | 0.1 U | 0.19 B | 0.27 B |
| CADMIUM, FILTERED | 2.7 UL | 2.7 UL | 2.7 U |
| CALCIUM, FILTERED | 11800 J | 4390 J | 3380 |
| CHROMIUM, FILTERED | 3 | 2.3 U | 2.3 U |
| COBALT, FILTERED | 19.1 | 22.2 | 3.3 U |
| COPPER, FILTERED | 3.2 B | 3.3 B | 2.4 U |
| IRON, FILTERED | 1930 J | 431 J | 32.8 B |
| LEAD, FILTERED | 1 U | 5.1 | 1 UJ |
| MAGNESIUM, FILTERED | 9620 J | 5520 J | 2370 |
| MANGANESE, FILTERED | 144 J | 47.3 J | 21.7 |
| MERCURY, FILTERED | 0.2 U | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 10.5 | 7.5 U | 7.5 U |
| POTASSIUM, FILTERED | 2090 | 1340 | 2210 B |
| SELENIUM, FILTERED | 2.5 UJ | 2.5 UJ | 2.5 UL |
| SILVER, FILTERED | 2.8 UL | 2.8 UL | 3 B |
| SODIUM, FILTERED | 11400 J | 8430 J | 3120 |
| THALLIUM, FILTERED | 3.6 | 4.2 | 2.9 U |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 9.8 B | 9.7 B | 11.4 B |

# APPENDIX M

# ANALTYICAL DATA

# SITE 8

TABLE M-1

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 8SS1000100 | 8SS1010100 | 8SS1020100 | 8SS1030100 | 8SS1040100 | 8SS1050100 |
|---|---|---|---|---|---|---|
| LOCATION: | 8SB100 | 8SB101 | 8SB102 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | |
| ALUMINUM | 2430 J | 5620 J | 6350 J | 8260 J | 6480 J | 8760 J |
| ANTIMONY | 0.62 UR | 0.74 UR | 0.67 UR | 0.71 UR | 0.72 UR | 0.74 UR |
| ARSENIC | 2.5 B | 8.1 | 2.1 B | 3.0 B | 2.6 B | 3.4 B |
| BARIUM | 15.0 | 49.3 | 28.6 | 53.8 | 50.3 | 66.1 |
| BERYLLIUM | 0.15 B | 0.02 U | 0.01 U | 0.17 B | 0.03 B | 0.11 B |
| CADMIUM | 0.26 B | 1.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| CALCIUM | 238000 J | 2830 J | 841 J | 615 J | 1220 J | 1310 J |
| CHROMIUM | 16.2 | 10.0 | 8.7 | 10.7 | 8.7 | 11.2 |
| COBALT | 7.4 K | 5.2 | 2.1 | 5.5 | 6.7 | 7.8 |
| COPPER | 12.5 K | 9.9 | 5.3 | 7.3 | 6.6 | 5.7 |
| CYANIDE | 0.15 U | 0.18 U | 0.16 U | 0.17 U | 0.17 | 0.18 U |
| IRON | 9320 | 9420 | 7810 | 13500 | 7580 | 9340 |
| LEAD | 13.0 K | 40.9 K | 10.9 K | 22.9 K | 30.4 K | 35.1 K |
| MAGNESIUM | 20800 | 913 | 436 | 599 | 553 | 870 |
| MANGANESE | 227 | 368 | 177 | 508 | 641 | 827 |
| MERCURY | 0.19 L | 5.1 L | 0.06 UL | 0.10 L | 0.14 L | 0.08 L |
| NICKEL | 109 | 9.4 | 3.7 | 6.6 | 5.2 | 10.8 |
| POTASSIUM | 400 | 459 | 258 | 350 | 320 | 318 |
| SELENIUM | 0.62 UL | 8.4 | 0.67 UL | 0.71 UL | 0.72 UL | 0.74 UL |
| SILVER | 0.15 U | 0.89 B | 0.17 U | 0.18 U | 0.18 U | 0.18 U |
| SODIUM | 55.9 L | 24.4 | 19.7 U | 21.0 U | 21.3 U | 21.7 U |
| THALLIUM | 1.4 B | 1.5 U | 1.3 U | 1.4 U | 1.4 U | 1.5 U |
| VANADIUM | 8.0 | 18.2 | 15.5 | 17.7 | 17.4 | 21.2 |
| ZINC | 37.2 | 45.1 | 102 | 22.0 | 33.7 | 29.0 |
| **SEMIVOLATILES (ug/kg)** | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 1,2-DICHLOROBENZENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 1,3-DICHLOROBENZENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 1,4-DICHLOROBENZENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2,4,5-TRICHLOROPHENOL | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| 2,4,6-TRICHLOROPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2,4-DICHLOROPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2,4-DIMETHYLPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2,4-DINITROPHENOL | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| 2,4-DINITROTOLUENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2,6-DINITROTOLUENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2-CHLORONAPHTHALENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |

TABLE M-1

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 8SS1000100 | 8SS1010100 | 8SS1020100 | 8SS1030100 | 8SS1040100 | 8SS1050100 |
|---|---|---|---|---|---|---|
| LOCATION: | 8SB100 | 8SB101 | 8SB102 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2-METHYLNAPHTHALENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2-METHYLPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 2-NITROANILINE | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| 2-NITROPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 3,3'-DICHLOROBENZIDINE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 3-NITROANILINE | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| 4,6-DINITRO-2-METHYLPHENOL | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| 4-BROMOPHENYL PHENYL ETHER | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 4-CHLORO-3-METHYLPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 4-CHLOROANILINE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 4-CHLOROPHENYL PHENYL ETHER | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 4-METHYLPHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| 4-NITROANILINE | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| 4-NITROPHENOL | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| ACENAPHTHENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| ACENAPHTHYLENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| ANTHRACENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BENZO(A)ANTHRACENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BENZO(A)PYRENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BENZO(B)FLUORANTHENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BENZO(G,H,I)PERYLENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BENZO(K)FLUORANTHENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BIS(2-CHLOROETHOXY)METHANE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BIS(2-CHLOROETHYL)ETHER | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| BUTYLBENZYL PHTHALATE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| CARBAZOLE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| CHRYSENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| DI-N-BUTYL PHTHALATE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| DI-N-OCTYL PHTHALATE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| DIBENZO(A,H)ANTHRACENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| DIBENZOFURAN | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| DIETHYL PHTHALATE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| DIMETHYL PHTHALATE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| FLUORANTHENE | 72 J | 440 U | 400 U | 420 U | 430 U | 430 U |
| FLUORENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| HEXACHLOROBENZENE | 360 U | 440 | 400 U | 420 U | 430 U | 430 U |
| HEXACHLOROBUTADIENE | 360 U | 440 | 400 U | 420 U | 430 U | 430 U |

TABLE M-1

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 8SS1000100 | 8SS1010100 | 8SS1020100 | 8SS1030100 | 8SS1040100 | 8SS1050100 |
|---|---|---|---|---|---|---|
| LOCATION: | 8SB100 | 8SB101 | 8SB102 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| HEXACHLOROETHANE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| INDENO(1,2,3-CD)PYRENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| ISOPHORONE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| N-NITROSO-DI-N-PROPYLAMINE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| N-NITROSODIPHENYLAMINE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| NAPHTHALENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| NITROBENZENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| PENTACHLOROPHENOL | 880 U | 1100 U | 970 U | 1000 U | 1000 U | 1000 U |
| PHENANTHRENE | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| PHENOL | 360 U | 440 U | 400 U | 420 U | 430 U | 430 U |
| PYRENE | 70 J | 440 U | 400 U | 420 U | 430 U | 430 U |
| **VOLATILES (ug/kg)** | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,1-DICHLOROETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,1-DICHLOROETHENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,2-DICHLOROETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 1,2-DICHLOROPROPANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 2-BUTANONE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 2-HEXANONE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| 4-METHYL-2-PENTANONE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| ACETONE | 11 UJ | 13 UJ | 12 UJ | 160 J | 13 UJ | 13 U |
| BENZENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| BROMODICHLOROMETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| BROMOFORM | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| BROMOMETHANE | 11 U | 13 U | 12 U | 8 B | 13 U | 4 B |
| CARBON DISULFIDE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| CARBON TETRACHLORIDE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| CHLOROBENZENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| CHLORODIBROMOMETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| CHLOROETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| CHLOROFORM | 11 U | 13 U | 12 U | 3 B | 13 U | 13 U |
| CHLOROMETHANE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| CIS-1,3-DICHLOROPROPENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| ETHYLBENZENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| METHYLENE CHLORIDE | 58 | 24 B | 9 B | 33 B | 29 B | 4 B |

TABLE M-1

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE SOIL



| SAMPLE I.D.: | 8SS1000100 | 8SS1010100 | 8SS1020100 | 8SS1030100 | 8SS1040100 | 8SS1050100 |
|---|---|---|---|---|---|---|
| LOCATION: | 8SB100 | 8SB101 | 8SB102 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 | 0.0 - 0.5 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| TETRACHLOROETHENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| TOLUENE | 11 U | 13 U | 12 U | 4 J | 13 U | 13 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| TRICHLOROETHENE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| VINYL CHLORIDE | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| XYLENES, TOTAL | 11 U | 13 U | 12 U | 64 U | 13 U | 13 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | |
| 4,4'-DDD | 3.7 U | 13 | 0.073 R | 420 U | 0.098 R | 4.4 U |
| 4,4'-DDE | 2.9 R | 2.2 B | 0.19 R | 420 U | 1.3 R | 2.0 B |
| 4,4'-DDT | 1.9 R | 4.4 U | 4.0 U | 420 U | 4.3 U | 4.4 U |
| ALDRIN | 1.8 U | 0.067 R | 0.076 R | 210 U | 0.082 R | 0.074 B |
| ALPHA-BHC | 1.8 U | 2.2 U | 2.0 U | 210 U | 2.1 U | 0.085 R |
| ALPHA-CHLORDANE | 1.8 U | 0.70 J | 1.9 J | 2.6 J | 1.8 J | 2.2 |
| AROCLOR-1016 | 37 U | 44 U | 40 U | 4200 U | 43 U | 44 U |
| AROCLOR-1221 | 73 U | 88 U | 79 U | 8400 U | 86 U | 87 U |
| AROCLOR-1232 | 37 U | 44 U | 40 U | 4200 U | 43 U | 44 U |
| AROCLOR-1242 | 37 U | 44 U | 40 U | 4200 U | 43 U | 44 U |
| AROCLOR-1248 | 37 U | 44 U | 40 U | 4200 U | 43 U | 44 U |
| AROCLOR-1254 | 37 U | 44 U | 40 U | 4200 U | 43 U | 44 U |
| AROCLOR-1260 | 420 | 92 | 5.1 R | 4200 U | 8.0 J | 23 J |
| BETA-BHC | 1.8 U | 0.067 R | 2.0 U | 210 U | 0.089 R | 0.090 R |
| DELTA-BHC | 1.8 U | 2.2 U | 0.039 R | 210 U | 0.024 R | 2.2 U |
| DIELDRIN | 6.6 J | 1.0 B | 4.0 U | 420 U | 4.3 U | 4.4 U |
| ENDOSULFAN I | 1.8 U | 2.2 U | 2.0 U | 210 U | 2.1 U | 2.2 U |
| ENDOSULFAN II | 3.7 U | 4.4 U | 4.0 U | 420 U | 4.3 U | 4.4 U |
| ENDOSULFAN SULFATE | 5.8 R | 0.76 R | 4.0 U | 420 U | 4.3 U | 4.4 U |
| ENDRIN | 0.63 J | 4.4 U | 4.0 U | 420 U | 4.3 U | 4.4 U |
| ENDRIN ALDEHYDE | 1.1 R | 4.4 U | 4.0 U | 420 U | 4.3 U | 4.4 U |
| ENDRIN KETONE | 3.7 U | 4.4 U | 4.0 U | 420 U | 4.3 U | 4.4 U |
| GAMMA-BHC (LINDANE) | 1.8 U | 2.2 U | 2.0 U | 210 U | 2.1 U | 2.2 U |
| GAMMA-CHLORDANE | 3.2 R | 0.37 R | 0.21 R | 210 U | 0.098 B | 0.19 B |
| HEPTACHLOR | 0.053 R | 0.13 R | 0.077 R | 210 U | 2.1 U | 2.2 U |
| HEPTACHLOR EPOXIDE | 0.054 R | 0.051 R | 0.033 R | 210 U | 0.10 R | 0.11 R |
| METHOXYCHLOR | 18 U | 22 U | 20 U | 2100 U | 21 U | 22 U |
| TOXAPHENE | 180 U | 220 U | 200 U | 21000 U | 210 U | 220 U |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 08-SB01-1416 | 08-SB02-1618 | 08-SB04-1112 | 08-SB05-1618 | 08-SB06-1216 | 8SU1000200 | 8SU1010200 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 08SB01 | 08SB02 | 08SB04 | 08SB05 | 08SB06 | 8SB100 | 8SB101 |
| SAMPLE DATE: | 03/24/95 | 03/23/95 | 03/24/95 | 03/23/95 | 03/23/95 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 14-16 | 16-18 | 11-12 | 16-18 | 12-16 | 1-1.5 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | |
| ALUMINUM | 4630 | 13600 | 3560 | 8690 | 5200 | 2690 J | 15800 J |
| ANTIMONY | 0.4 B | 0.24 UL | 0.25 UL | 0.24 UL | 0.24 UL | 0.60 UR | 0.69 UR |
| ARSENIC | 1.2 B | 0.36 L | 7.9 B | 0.19 UL | 0.28 L | 0.86 B | 5.8 |
| BARIUM | 12.7 | 22.0 | 4.8 B | 30.0 | 4.0 | 3.2 K | 55.5 |
| BERYLLIUM | 0.66 B | 1.0 L | 2.5 | 0.46 L | 0.13 UL | 0.01 U | 0.12 B |
| CADMIUM | 1.4 B | 0.50 U | 0.76 B | 0.51 U | 0.49 U | 0.04 UL | 0.05 U |
| CALCIUM | 39.1 B | 58.2 B | 101 L | 93.0 | 79.6 | 31400 J | 294 J |
| CHROMIUM | 11.9 | 12.3 | 7.1 | 13.7 | 5.7 | 77.6 | 25.0 |
| COBALT | 14.5 | 29.3 | 7.0 | 11.5 | 8.7 | 48.7 | 5.6 |
| COPPER | 45.7 | 42.9 | 16.3 B | 36.8 | 16.8 | 14.1 | 9.7 |
| CYANIDE | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 0.14 U | 0.17 U |
| IRON | 19200 J | 36500 J | 10600 J | 27400 J | 15400 J | 16800 | 22100 |
| LEAD | 5.1 J | 4.5 J | 9.3 J | 3.3 J | 4.9 J | 1.4 J | 11.2 K |
| MAGNESIUM | 880 | 2600 | 237 | 2190 | 498 L | 97600 | 966 |
| MANGANESE | 956 | 1440 J | 320 | 559 J | 460 J | 433 | 141 |
| MERCURY | 0.55 | 0.10 B | 0.34 B | 0.12 B | 0.08 B | 0.05 UL | 0.06 UL |
| NICKEL | 8.4 | 19.8 | 2.8 | 52.7 | 4.20 | 892 | 8.5 |
| POTASSIUM | 630 | 1920 | 130 | 1700 | 300 | 87.8 | 590 |
| SELENIUM | 0.32 UL | 0.31 UL | 0.31 UL | 0.31 UL | 0.30 UL | 0.60 UL | 1.3 B |
| SILVER | 0.08 UJ | 0.08 U | 0.08 UJ | 0.08 U | 0.08 U | 0.15 U | 0.17 U |
| SODIUM | 17.5 U | 83.2 | 17.0 U | 36.9 | 24.6 | 36.6 L | 20.3 U |
| THALLIUM | 0.28 U | 0.26 U | 0.27 UL | 0.26 U | 0.26 U | 1.2 B | 1.8 B |
| VANADIUM | 27.9 | 25.6 | 14.0 | 28.6 | 16.9 | 5.7 | 34.5 |
| ZINC | 42.6 J | 71.5 | 39.7 J | 60.2 | 10.3 | 22.4 | 24.5 |
| **SEMIVOLATILES (ug/kg)** | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 1,2-DICHLOROBENZENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 1,3-DICHLOROBENZENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 1,4-DICHLOROBENZENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2,4,5-TRICHLOROPHENOL | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| 2,4,6-TRICHLOROPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2,4-DICHLOROPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2,4-DIMETHYLPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2,4-DINITROPHENOL | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| 2,4-DINITROTOLUENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 08-SB01-1416 | 08-SB02-1618 | 08-SB04-1112 | 08-SB05-1618 | 08-SB06-1216 | 8SU1000200 | 8SU1010200 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 08SB01 | 08SB02 | 08SB04 | 08SB05 | 08SB06 | 8SB100 | 8SB101 |
| SAMPLE DATE: | 03/24/95 | 03/23/95 | 03/24/95 | 03/23/95 | 03/23/95 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 14-16 | 16-18 | 11-12 | 16-18 | 12-16 | 1-1.5 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,6-DINITROTOLUENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2-CHLORONAPHTHALENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2-CHLOROPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2-METHYLNAPHTHALENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2-METHYLPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 2-NITROANILINE | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| 2-NITROPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 3,3'-DICHLOROBENZIDINE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 3-NITROANILINE | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| 4,6-DINITRO-2-METHYLPHENOL | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| 4-BROMOPHENYL PHENYL ETHER | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 4-CHLORO-3-METHYLPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 4-CHLOROANILINE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 4-CHLOROPHENYL PHENYL ETHER | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 4-METHYLPHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| 4-NITROANILINE | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| 4-NITROPHENOL | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| ACENAPHTHENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| ACENAPHTHYLENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| ANTHRACENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BENZO(A)ANTHRACENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BENZO(A)PYRENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BENZO(B)FLUORANTHENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BENZO(G,H,I)PERYLENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BENZO(K)FLUORANTHENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BIS(2-CHLOROETHOXY)METHANE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BIS(2-CHLOROETHYL)ETHER | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| BUTYLBENZYL PHTHALATE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| CARBAZOLE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| CHRYSENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| DI-N-BUTYL PHTHALATE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| DI-N-OCTYL PHTHALATE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| DIBENZO(A,H)ANTHRACENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| DIBENZOFURAN | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| DI[illegible]YL PHTHALATE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 41[illegible] |
| D[illegible]YL PHTHALATE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 4[illegible] |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 08-SB01-1416 | 08-SB02-1618 | 08-SB04-1112 | 08-SB05-1618 | 08-SB06-1216 | 8SU1000200 | 8SU1010200 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 08SB01 | 08SB02 | 08SB04 | 08SB05 | 08SB06 | 8SB100 | 8SB101 |
| SAMPLE DATE: | 03/24/95 | 03/23/95 | 03/24/95 | 03/23/95 | 03/23/95 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 14-16 | 16-18 | 11-12 | 16-18 | 12-16 | 1-1.5 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| FLUORANTHENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| FLUORENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| HEXACHLOROBENZENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| HEXACHLOROBUTADIENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| HEXACHLOROCYCLOPENTADIENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| HEXACHLOROETHANE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| INDENO(1,2,3-CD)PYRENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| ISOPHORONE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| N-NITROSO-DI-N-PROPYLAMINE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| N-NITROSODIPHENYLAMINE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| NAPHTHALENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| NITROBENZENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| PENTACHLOROPHENOL | 960 U | 920 U | 930 U | 920 U | 900 U | 850 U | 980 U |
| PHENANTHRENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| PHENOL | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| PYRENE | 380 U | 370 U | 370 U | 370 U | 360 U | 350 U | 410 U |
| **VOLATILES (ug/kg)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 2-BUTANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 2-HEXANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| ACETONE | 12 U | 11 U | 11 U | 11 U | 11 U | 47 J | 12 UJ |
| BENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| BROMOFORM | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| BROMOMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 1 B |
| CARBON DISULFIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| CARBON TETRACHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROBENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| CHLORODIBROMOMETHANE | 0 | 0 | 0 | 0 | 0 | 11 U | 12 U |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 08-SB01-1416 | 08-SB02-1618 | 08-SB04-1112 | 08-SB05-1618 | 08-SB06-1216 | 8SU1000200 | 8SU1010200 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 08SB01 | 08SB02 | 08SB04 | 08SB05 | 08SB06 | 8SB100 | 8SB101 |
| SAMPLE DATE: | 03/24/95 | 03/23/95 | 03/24/95 | 03/23/95 | 03/23/95 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 14-16 | 16-18 | 11-12 | 16-18 | 12-16 | 1-1.5 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROFORM | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROMETHANE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| ETHYLBENZENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| METHYLENE CHLORIDE | 12 U | 3 B | 11 U | 4 B | 5 B | 11 U | 12 U |
| STYRENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| TETRACHLOROETHENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| TOLUENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| TRICHLOROETHENE | 2 J | 11 U | 6 J | 11 U | 11 U | 11 U | 12 U |
| VINYL CHLORIDE | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| XYLENES, TOTAL | 12 U | 11 U | 11 U | 11 U | 11 U | 11 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | |
| 4,4'-DDD | N/A | N/A | N/A | N/A | N/A | 3.5 U | 0.14 B |
| 4,4'-DDE | N/A | N/A | N/A | N/A | N/A | 0.28 R | 0.075 R |
| 4,4'-DDT | N/A | N/A | N/A | N/A | N/A | 3.5 U | 4.1 U |
| ALDRIN | N/A | N/A | N/A | N/A | N/A | 0.082 R | 0.12 B |
| ALPHA-BHC | N/A | N/A | N/A | N/A | N/A | 1.8 U | 2.0 U |
| ALPHA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | 1.8 U | 2.0 U |
| AROCLOR-1016 | N/A | N/A | N/A | N/A | N/A | 35 U | 41 U |
| AROCLOR-1221 | N/A | N/A | N/A | N/A | N/A | 70 U | 82 U |
| AROCLOR-1232 | N/A | N/A | N/A | N/A | N/A | 35 U | 41 U |
| AROCLOR-1242 | N/A | N/A | N/A | N/A | N/A | 35 U | 41 U |
| AROCLOR-1248 | N/A | N/A | N/A | N/A | N/A | 35 U | 41 U |
| AROCLOR-1254 | N/A | N/A | N/A | N/A | N/A | 35 U | 41 U |
| AROCLOR-1260 | N/A | N/A | N/A | N/A | N/A | 15 J | 41 U |
| BETA-BHC | N/A | N/A | N/A | N/A | N/A | 1.8 U | 2.0 U |
| DELTA-BHC | N/A | N/A | N/A | N/A | N/A | 1.8 U | 2.0 U |
| DIELDRIN | N/A | N/A | N/A | N/A | N/A | 0.19 B | 4.1 U |
| ENDOSULFAN I | N/A | N/A | N/A | N/A | N/A | 0.024 R | 2.0 U |
| ENDOSULFAN II | N/A | N/A | N/A | N/A | N/A | 3.5 U | 4.1 U |
| ENDOSULFAN SULFATE | N/A | N/A | N/A | N/A | N/A | 0.14 R | 4.1 U |
| ENDRIN | N/A | N/A | N/A | N/A | N/A | 3.5 U | 4.1 U |
| ENDRIN ALDEHYDE | N/A | N/A | N/A | N/A | N/A | 3.5 U | 4.1 U |
| E[illegible]N KETONE | N/A | N/A | N/A | N/A | N/A | 3.5 U | 4.[illegible] |
| G[illegible]-BHC (LINDANE) | N/A | N/A | N/A | N/A | N/A | 1.8 U | 2[illegible] |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 08-SB01-1416 | 08-SB02-1618 | 08-SB04-1112 | 08-SB05-1618 | 08-SB06-1216 | 8SU1000200 | 8SU1010200 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 08SB01 | 08SB02 | 08SB04 | 08SB05 | 08SB06 | 8SB100 | 8SB101 |
| SAMPLE DATE: | 03/24/95 | 03/23/95 | 03/24/95 | 03/23/95 | 03/23/95 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 14-16 | 16-18 | 11-12 | 16-18 | 12-16 | 1-1.5 | 2-4 |
| ASSOCIATED DUPLICATE: | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| GAMMA-CHLORDANE | N/A | N/A | N/A | N/A | N/A | 0.037 R | 2.0 U |
| HEPTACHLOR | N/A | N/A | N/A | N/A | N/A | 0.060 R | 0.13 R |
| HEPTACHLOR EPOXIDE | N/A | N/A | N/A | N/A | N/A | 1.8 U | 2.0 U |
| METHOXYCHLOR | N/A | N/A | N/A | N/A | N/A | 0.67 J | 0.36 J |
| TOXAPHENE | N/A | N/A | N/A | N/A | N/A | 180 U | 200 U |
| **EXPLOSIVES (ug/kg)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 40.2 UJ | 40.2 UJ | 40.2 UJ | 40.2 U | 40.2 U | N/A | N/A |
| 1,3-DINITROBENZENE | 37.21 UJ | 37.21 UJ | 37.21 UJ | 37.21 U | 37.21 U | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | 35.59 UJ | 35.59 UJ | 35.59 UJ | 35.59 U | 35.59 U | N/A | N/A |
| 2,4-DINITROTOLUENE | 51.57 UJ | 51.57 UJ | 51.57 UJ | 51.57 U | 51.57 U | N/A | N/A |
| 2,6-DINITROTOLUENE | 47.65 UJ | 47.65 UJ | 47.65 UJ | 47.65 U | 47.65 U | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | 46.67 UJ | 46.67 UJ | 46.67 UJ | 46.67 U | 46.67 U | N/A | N/A |
| 2-NITROTOLUENE | 81.39 UJ | 81.39 UJ | 81.39 UJ | 81.39 U | 81.39 U | N/A | N/A |
| 3-NITROTOLUENE | 81.79 UJ | 81.79 UJ | 81.79 UJ | 81.79 U | 81.79 U | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | 40.85 UJ | 40.85 UJ | 40.85 UJ | 40.85 U | 40.85 U | N/A | N/A |
| 4-NITROTOLUENE | 87.25 UJ | 87.25 UJ | 87.25 UJ | 87.25 U | 87.25 U | N/A | N/A |
| HMX | 70.49 UJ | 70.49 UJ | 70.49 UJ | 70.49 U | 70.49 U | N/A | N/A |
| NITROBENZENE | 35.21 UJ | 35.21 UJ | 35.21 UJ | 35.21 U | 35.21 U | N/A | N/A |
| RDX | 50.9 UJ | 50.9 UJ | 50.9 UJ | 50.9 U | 50.9 U | N/A | N/A |
| TETRYL | 162.65 UJ | 162.65 UJ | 162.65 UJ | 162.65 U | 162.65 U | N/A | N/A |
| **MISCELLANEOUS PARAMETERS** | | | | | | | |
| ACID-INSOLUBLE SULFIDE mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | 50 U |
| BOD-5DAY (TOTAL) mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | 50 L |
| CHEMICAL OXYGEN DEMAND mg/L | N/A | N/A | N/A | N/A | N/A | N/A | 10 U |
| FERROUS IRON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | 0.25 UL |
| HEXAVALENT CHROMIUM mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | 0.62 |
| PH | N/A | 5.01 | 4.53 | 4.83 | 5.03 | N/A | 4.6 |
| TOTAL KJELDAHL NITROGEN mg/kg | 9.18 | 7.74 B | 26.9 | 16.2 B | 8.92 B | N/A | N/A |
| TOTAL ORGANIC CARBON mg/kg | N/A | N/A | N/A | N/A | N/A | N/A | 2500 |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 8SU1020200 | 8SU1030200 | 8SU1030200-D | 8SU1040200 | 8SU1050200 |
|---|---|---|---|---|---|
| LOCATION: | 8SB102 | 8SB103 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | 8SU1030200-D | 8SU1030200 | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | |
| ALUMINUM | 16600 J | 9910 J | 17900 J | 15800 J | 13600 J |
| ANTIMONY | 0.69 UR | 0.67 UR | 0.67 UR | 0.67 UR | 0.68 UR |
| ARSENIC | 5.5 | 3.7 B | 4.5 | 4.5 | 3.3 B |
| BARIUM | 39.3 | 28.4 | 39.8 | 33.5 | 34.1 |
| BERYLLIUM | 0.10 B | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| CADMIUM | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| CALCIUM | 403 J | 205 J | 218 J | 178 J | 242 J |
| CHROMIUM | 25.0 | 15.1 | 23.5 | 22.4 | 17.0 |
| COBALT | 2.3 | 3.3 | 4.1 | 3.5 | 4.7 |
| COPPER | 9.3 | 6.6 | 9.4 | 9.7 | 8.2 |
| CYANIDE | 0.17 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U |
| IRON | 22500 | 16500 | 21200 | 23500 | 19700 |
| LEAD | 10.4 K | 8.3 K | 10.3 K | 9.9 K | 9.3 K |
| MAGNESIUM | 472 | 413 | 701 | 968 | 1060 |
| MANGANESE | 40.6 | 74.8 | 91.5 | 74.3 | 82.0 |
| MERCURY | 0.06 L | 0.06 UL | 0.09 L | 0.06 UL | 0.06 UL |
| NICKEL | 4.3 | 3.1 | 5.7 | 6.9 | 7.4 |
| POTASSIUM | 529 | 366 | 630 | 611 | 520 |
| SELENIUM | 0.69 UL | 0.89 B | 0.67 UL | 1.0 B | 0.68 UL |
| SILVER | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| SODIUM | 20.5 U | 19.6 U | 19.9 U | 19.6 U | 30.8 |
| THALLIUM | 1.5 B | 1.9 B | 1.4 B | 1.6 B | 1.4 U |
| VANADIUM | 47.8 | 29.3 | 41.7 | 38.9 | 30.5 |
| ZINC | 27.4 | 13.6 | 21.0 | 20.6 | 21.7 |
| **SEMIVOLATILES (ug/kg)** | | | | | |
| 1,2,4-TRICHLOROBENZENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 1,2-DICHLOROBENZENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 1,3-DICHLOROBENZENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 1,4-DICHLOROBENZENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2,4,5-TRICHLOROPHENOL | 990 U | 950 U | 960 U | 950 U | 980 U |
| 2,4,6-TRICHLOROPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2,4-DICHLOROPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2,4-DIMETHYLPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2,4-DINITROPHENOL | 990 U | 950 U | 960 U | 950 U | 980 U |
| 2,4-DINITROTOLUENE | 410 U | 390 U | 400 U | 390 U | 400 U |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 8SU1020200 | 8SU1030200 | 8SU1030200-D | 8SU1040200 | 8SU1050200 |
|---|---|---|---|---|---|
| LOCATION: | 8SB102 | 8SB103 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | 8SU1030200-D | 8SU1030200 | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,6-DINITROTOLUENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2-CHLORONAPHTHALENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2-CHLOROPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2-METHYLNAPHTHALENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2-METHYLPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 2-NITROANILINE | 990 U | 950 U | 960 U | 950 U | 980 U |
| 2-NITROPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 3,3'-DICHLOROBENZIDINE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 3-NITROANILINE | 990 U | 950 U | 960 U | 950 U | 980 U |
| 4,6-DINITRO-2-METHYLPHENOL | 990 U | 950 U | 960 U | 950 U | 980 U |
| 4-BROMOPHENYL PHENYL ETHER | 410 U | 390 U | 400 U | 390 U | 400 U |
| 4-CHLORO-3-METHYLPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 4-CHLOROANILINE | 410 U | 390 U | 400 U | 390 U | 400 U |
| 4-CHLOROPHENYL PHENYL ETHER | 410 U | 390 U | 400 U | 390 U | 400 U |
| 4-METHYLPHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| 4-NITROANILINE | 990 U | 950 U | 960 U | 950 U | 980 U |
| 4-NITROPHENOL | 990 U | 950 U | 960 U | 950 U | 980 U |
| ACENAPHTHENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| ACENAPHTHYLENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| ANTHRACENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BENZO(A)ANTHRACENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BENZO(A)PYRENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BENZO(B)FLUORANTHENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BENZO(G,H,I)PERYLENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BENZO(K)FLUORANTHENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BIS(2-CHLOROETHOXY)METHANE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BIS(2-CHLOROETHYL)ETHER | 410 U | 390 U | 400 U | 390 U | 400 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 410 U | 390 U | 400 U | 390 U | 400 U |
| BUTYLBENZYL PHTHALATE | 410 U | 390 U | 400 U | 390 U | 400 U |
| CARBAZOLE | 410 U | 390 U | 400 U | 390 U | 400 U |
| CHRYSENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| DI-N-BUTYL PHTHALATE | 410 U | 390 U | 400 U | 390 U | 400 U |
| DI-N-OCTYL PHTHALATE | 410 U | 390 U | 400 U | 390 U | 400 U |
| DIBENZO(A,H)ANTHRACENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| DIBENZOFURAN | 410 U | 390 U | 400 U | 390 U | 400 U |
| DIETHYL PHTHALATE | 410 U | 390 U | 400 U | 390 U | 400 U |
| DIMETHYL PHTHALATE | 410 U | 390 U | 400 U | 390 U | 400 U |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 8SU1020200 | 8SU1030200 | 8SU1030200-D | 8SU1040200 | 8SU1050200 |
|---|---|---|---|---|---|
| LOCATION: | 8SB102 | 8SB103 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | 8SU1030200-D | 8SU1030200 | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| FLUORANTHENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| FLUORENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| HEXACHLOROBENZENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| HEXACHLOROBUTADIENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| HEXACHLOROCYCLOPENTADIENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| HEXACHLOROETHANE | 410 U | 390 U | 400 U | 390 U | 400 U |
| INDENO(1,2,3-CD)PYRENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| ISOPHORONE | 410 U | 390 U | 400 U | 390 U | 400 U |
| N-NITROSO-DI-N-PROPYLAMINE | 410 U | 390 U | 400 U | 390 U | 400 U |
| N-NITROSODIPHENYLAMINE | 410 U | 390 U | 400 U | 390 U | 400 U |
| NAPHTHALENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| NITROBENZENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| PENTACHLOROPHENOL | 990 U | 950 U | 960 U | 950 U | 980 U |
| PHENANTHRENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| PHENOL | 410 U | 390 U | 400 U | 390 U | 400 U |
| PYRENE | 410 U | 390 U | 400 U | 390 U | 400 U |
| **VOLATILES (ug/kg)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,1-DICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,1-DICHLOROETHENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,2-DICHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 12 U | 12 U | 12 U | 12 U | 12 U |
| 1,2-DICHLOROPROPANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 2-BUTANONE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 2-HEXANONE | 12 U | 12 U | 12 U | 12 U | 12 U |
| 4-METHYL-2-PENTANONE | 12 U | 12 U | 12 U | 12 U | 12 U |
| ACETONE | 12 UJ | 12 U | 12 UJ | 12 UJ | 12 UJ |
| BENZENE | 12 U | 12 UJ | 12 U | 12 U | 12 U |
| BROMODICHLOROMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| BROMOFORM | 12 U | 12 U | 12 U | 12 U | 12 U |
| BROMOMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| CARBON DISULFIDE | 12 U | 12 U | 12 U | 12 U | 12 U |
| CARBON TETRACHLORIDE | 12 U | 12 U | 12 U | 12 U | 12 U |
| CHLOROBENZENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| CHLORODIBROMOMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 8SU1020200 | 8SU1030200 | 8SU1030200-D | 8SU1040200 | 8SU1050200 |
|---|---|---|---|---|---|
| LOCATION: | 8SB102 | 8SB103 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | 8SU1030200-D | 8SU1030200 | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| CHLOROFORM | 12 U | 12 U | 12 U | 12 U | 0.4 B |
| CHLOROMETHANE | 12 U | 12 U | 12 U | 12 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| ETHYLBENZENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| METHYLENE CHLORIDE | 33 B | 55 | 19 B | 19 B | 42 B |
| STYRENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| TETRACHLOROETHENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| TOLUENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| TRICHLOROETHENE | 12 U | 12 U | 12 U | 12 U | 12 U |
| VINYL CHLORIDE | 12 U | 12 U | 12 U | 12 U | 12 U |
| XYLENES, TOTAL | 12 U | 12 U | 12 U | 12 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | |
| 4,4'-DDD | 0.10 B | 0.13 R | 0.34 R | 0.12 B | 0.061 R |
| 4,4'-DDE | 0.045 R | 0.49 J | 0.68 J | 0.50 B | 0.38 B |
| 4,4'-DDT | 4.1 U | 3.9 U | 4.0 U | 4.0 U | 4.0 U |
| ALDRIN | 0.048 R | 0.056 R | 0.19 R | 0.051 R | 0.064 B |
| ALPHA-BHC | 2.1 U | 2.0 U | 0.022 R | 2.0 U | 0.026 R |
| ALPHA-CHLORDANE | 1.6 J | 1.2 J | 3.1 R | 2.6 | 0.19 R |
| AROCLOR-1016 | 41 U | 39 U | 40 U | 40 U | 40 U |
| AROCLOR-1221 | 82 U | 79 U | 80 U | 79 U | 81 U |
| AROCLOR-1232 | 41 U | 39 U | 40 U | 40 U | 40 U |
| AROCLOR-1242 | 41 U | 39 U | 40 U | 40 U | 40 U |
| AROCLOR-1248 | 41 U | 39 U | 40 U | 40 U | 40 U |
| AROCLOR-1254 | 41 U | 39 U | 40 U | 40 U | 40 U |
| AROCLOR-1260 | 41 U | 39 U | 40 U | 2.0 J | 40 U |
| BETA-BHC | 2.1 U | 2.0 U | 0.16 J | 2.0 U | 2.0 U |
| DELTA-BHC | 2.1 U | 2.0 U | 0.029 R | 2.0 U | 0.041 R |
| DIELDRIN | 4.1 U | 3.9 U | 4.0 U | 4.0 U | 4.0 U |
| ENDOSULFAN I | 2.1 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| ENDOSULFAN II | 4.1 U | 3.9 U | 4.0 U | 4.0 U | 4.0 U |
| ENDOSULFAN SULFATE | 4.1 U | 3.9 U | 4.0 U | 4.0 U | 4.0 U |
| ENDRIN | 0.064 J | 3.9 U | 0.19 R | 0.13 R | 0.050 J |
| ENDRIN ALDEHYDE | 4.1 U | 3.9 U | 4.0 U | 4.0 U | 4.0 U |
| ENDRIN KETONE | 4.1 U | 3.9 U | 4.0 U | 4.0 U | 4.0 U |
| GAMMA-BHC (LINDANE) | 2.1 U | 2.0 U | 2.0 U | 2.0 U | 0.040 R |

TABLE M-2

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | | 8SU1020200 | 8SU1030200 | 8SU1030200-D | 8SU1040200 | 8SU1050200 |
|---|---|---|---|---|---|---|
| LOCATION: | | 8SB102 | 8SB103 | 8SB103 | 8SB104 | 8SB105 |
| SAMPLE DATE: | | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 | 01/04/99 |
| DEPTH INTERVAL (FEET): | | 2-4 | 2-4 | 2-4 | 2-4 | 2-4 |
| ASSOCIATED DUPLICATE: | | | 8SU1030200-D | 8SU1030200 | | |
| VALIDATION STATUS: | | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| GAMMA-CHLORDANE | | 0.037 R | 2.0 U | 2.0 U | 0.067 B | 2.0 U |
| HEPTACHLOR | | 0.061 R | 2.0 U | 2.0 U | 2.0 U | 0.11 R |
| HEPTACHLOR EPOXIDE | | 0.043 R | 0.032 R | 0.094 R | 0.16 R | 2.0 U |
| METHOXYCHLOR | | 0.18 R | 20 U | 20 U | 20 U | 20 U |
| TOXAPHENE | | 210 U | 200 U | 200 U | 200 U | 200 U |
| **EXPLOSIVES (ug/kg)** | | | | | | |
| 1,3,5-TRINITROBENZENE | | N/A | N/A | N/A | N/A | N/A |
| 1,3-DINITROBENZENE | | N/A | N/A | N/A | N/A | N/A |
| 2,4,6-TRINITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 2,4-DINITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 2,6-DINITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 2-AMINO-4,6-DINITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 2-NITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 3-NITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 4-AMINO-2,6-DINITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| 4-NITROTOLUENE | | N/A | N/A | N/A | N/A | N/A |
| HMX | | N/A | N/A | N/A | N/A | N/A |
| NITROBENZENE | | N/A | N/A | N/A | N/A | N/A |
| RDX | | N/A | N/A | N/A | N/A | N/A |
| TETRYL | | N/A | N/A | N/A | N/A | N/A |
| **MISCELLANEOUS PARAMETERS** | | | | | | |
| ACID-INSOLUBLE SULFIDE | mg/kg | 50 U | N/A | N/A | N/A | 50 U |
| BOD-5DAY (TOTAL) | mg/kg | 35 L | N/A | N/A | N/A | 24 UL |
| CHEMICAL OXYGEN DEMAND | mg/L | 10 U | N/A | N/A | N/A | 10 U |
| FERROUS IRON | mg/kg | 0.25 UL | N/A | N/A | N/A | 0.24 UL |
| HEXAVALENT CHROMIUM | mg/kg | 1.1 | N/A | N/A | N/A | 0.98 |
| PH | | 5 | N/A | N/A | N/A | 4.9 |
| TOTAL KJELDAHL NITROGEN | mg/kg | N/A | N/A | N/A | N/A | N/A |
| TOTAL ORGANIC CARBON | mg/kg | 1300 | N/A | N/A | N/A | 700 |

TABLE M-3

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 8GWB10001 | 8GW330001 | 8GW340001 | 8GW350001 | 8GW360001 | 8GW530001 |
|---|---|---|---|---|---|---|
| LOCATION: | 8GWB1 | 8GW33 | 8GW34 | 8GW35 | 8GW36 | 8GW53 |
| SAMPLE DATE: | 01/20/99 | 01/22/99 | 01/20/99 | 01/20/99 | 01/21/99 | 01/22/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | |
| ALUMINUM | 684 K | 7980 K | 367 K | 16800 K | 13400 K | 11800 K |
| ANTIMONY | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U |
| ARSENIC | 1.5 U | 1.5 | 1.5 U | 5.3 | 4.5 | 4.0 |
| BARIUM | 27.9 | 113 | 16.3 | 300 | 563 | 95.8 |
| BERYLLIUM | 0.10 U | 1.3 B | 0.12 B | 3.5 B | 7.0 | 2.2 B |
| CADMIUM | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL | 13.5 | 2.7 UL |
| CALCIUM | 5190 | 5880 | 1940 | 11900 | 25600 | 4220 |
| CHROMIUM | 2.3 U | 211 | 15.0 | 27.4 | 96.1 | 34.4 |
| COBALT | 8.6 | 51.2 | 57.2 | 24.3 | 47.8 | 20.0 |
| COPPER | 6.9 B | 28.4 | 7.4 B | 34.0 | 93.1 | 35.2 |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 1520 J | 19700 J | 842 J | 25300 J | 44700 J | 21000 J |
| LEAD | 1.0 U | 5.0 | 1.0 U | 10.9 | 22.8 | 6.6 |
| MAGNESIUM | 2490 | 5730 | 1330 | 7980 | 14300 | 3670 |
| MANGANESE | 853 | 716 | 34.5 | 861 | 2430 | 1050 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.28 | 0.20 U |
| NICKEL | 7.5 U | 170 | 14.1 | 21.8 | 179 | 28.5 |
| POTASSIUM | 4390 | 6020 | 1200 | 6670 | 12500 | 3290 |
| SELENIUM | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ |
| SILVER | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL |
| SODIUM | 7460 | 5530 | 3970 | 7400 | 7960 | 4410 |
| THALLIUM | 2.9 U | 2.9 U | 3.3 | 4.0 | 2.9 U | 2.9 U |
| VANADIUM | 2.1 U | 17.3 | 2.1 U | 40.0 | 39.0 | 16.5 |
| ZINC | 32.7 | 64.1 | 20.9 | 80.6 | 178 | 99.1 |
| **SEMIVOLATILES (ug/L)** | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 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 |
| 2,4-DICHLOROPHENOL | 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 |
| 2,4-DINITROPHENOL | 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 |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 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 |
| 2-METHYLNAPHTHALENE | 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 |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |

TABLE M-3

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 8GWB10001 | 8GW330001 | 8GW340001 | 8GW350001 | 8GW360001 | 8GW530001 |
|---|---|---|---|---|---|---|
| LOCATION: | 8GWB1 | 8GW33 | 8GW34 | 8GW35 | 8GW36 | 8GW53 |
| SAMPLE DATE: | 01/20/99 | 01/22/99 | 01/20/99 | 01/20/99 | 01/21/99 | 01/22/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 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 |
| 4-BROMOPHENYL PHENYL ETHER | 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 |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 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 |
| 4-NITROANILINE | 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 |
| ACENAPHTHENE | 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 |
| ANTHRACENE | 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 |
| BENZO(A)PYRENE | 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 |
| BENZO(G,H,I)PERYLENE | 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 |
| BIS(2-CHLOROETHOXY)METHANE | 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 |
| BIS(2-ETHYLHEXYL)PHTHALATE | 1.6 J | 5 U | 5 U | 5 U | 1.8 J | 5 U |
| BUTYLBENZYL PHTHALATE | 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 |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 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 |
| DIETHYL PHTHALATE | 1.6 J | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIMETHYL PHTHALATE | 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 |
| FLUORENE | 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 |
| HEXACHLOROBUTADIENE | 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 |
| HEXACHLOROETHANE | 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 |
| ISOPHORONE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 | 5 U | 5 U | 5 U | 5 U |

TABLE M-3

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 8GWB10001 | 8GW330001 | 8GW340001 | 8GW350001 | 8GW360001 | 8GW530001 |
|---|---|---|---|---|---|---|
| LOCATION: | 8GWB1 | 8GW33 | 8GW34 | 8GW35 | 8GW36 | 8GW53 |
| SAMPLE DATE: | 01/20/99 | 01/22/99 | 01/20/99 | 01/20/99 | 01/21/99 | 01/22/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| N-NITROSODIPHENYLAMINE | 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 |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 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 |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 0.98 J | 1 U | 1 U | 0.42 J | 1.7 | 1 U |
| 1,1-DICHLOROETHANE | 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 |
| 1,2 DICHLOROBENZENE | 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 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 |
| 1,2-DICHLOROPROPANE | 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 |
| 1,4 DICHLOROBENZENE | 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 |
| 2-HEXANONE | 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 |
| ACETONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| BENZENE | 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 |
| BROMODICHLOROMETHANE | 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 |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 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 |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 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 |
| CHLOROFORM | 7.2 | 3.7 | 0.95 J | 6.3 | 1 U | 3.5 |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 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 |

TABLE M-3

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.:<br>LOCATION:<br>SAMPLE DATE:<br>VALIDATION STATUS: | 8GWB10001<br>8GWB1<br>01/20/99<br>VALIDATED | 8GW330001<br>8GW33<br>01/22/99<br>VALIDATED | 8GW340001<br>8GW34<br>01/20/99<br>VALIDATED | 8GW350001<br>8GW35<br>01/20/99<br>VALIDATED | 8GW360001<br>8GW36<br>01/21/99<br>VALIDATED | 8GW530001<br>8GW53<br>01/22/99<br>VALIDATED |
|---|---|---|---|---|---|---|
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| STYRENE | 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 |
| TOLUENE | 1 U | 0.65 J | 1 U | 1 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 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 |
| TRICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 0.92 J | 1 U |
| XYLENES, TOTAL | 1 U | 1 | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| ALDRIN | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL | 1.0 UL | 1.0 UL |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 UL | 2.0 UL | 2.0 UL | 2.0 UL |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL | 1.0 UL | 1.0 UL |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL | 1.0 UL | 1.0 UL |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL | 1.0 UL | 1.0 UL |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL | 1.0 UL | 1.0 UL |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 UL | 1.0 UL | 1.0 UL | 1.0 UL |
| BETA-BHC | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| ENDRIN | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.050 UL | 0.050 UL | 0.050 UL | 0.050 UL |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 UL | 0.50 UL | 0.50 UL | 0.50 UL |
| TOXAPHENE | 5.0 U | 5. | 5.0 UL | 5.0 UL | 5.0 UL | 5.0 UL |

TABLE M-4

SITE 8
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES

| SAMPLE I.D.: | 8GWB10001-F | 8GW330001-F | 8GW340001-F | 8GW350001-F | 8GW360001-F | 8GW530001-F |
|---|---|---|---|---|---|---|
| LOCATION: | 8GWB1 | 8GW33 | 8GW34 | 8GW35 | 8GW36 | 8GW53 |
| SAMPLE DATE: | 01/20/99 | 01/22/99 | 01/20/99 | 01/20/99 | 01/21/99 | 01/22/99 |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | | |
| ALUMINUM, FILTERED | 29.7 B | 30.8 B | 12.7 U | 33.6 B | 194 | 20.9 B |
| ANTIMONY, FILTERED | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 16.6 J | 28.4 J | 13.2 J | 37.9 J | 41.8 J | 12.6 J |
| BERYLLIUM, FILTERED | 0.12 B | 0.12 B | 0.19 B | 0.22 B | 0.16 B | 0.12 B |
| CADMIUM, FILTERED | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL |
| CALCIUM, FILTERED | 5170 J | 4470 J | 1690 J | 3520 J | 10600 J | 1690 J |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U |
| COBALT, FILTERED | 10.1 | 32.6 | 51.7 | 3.3 U | 13.5 | 3.3 U |
| COPPER, FILTERED | 3.1 B | 4 B | 5.6 B | 3.5 B | 4.8 B | 3.9 B |
| IRON, FILTERED | 52.1 B | 801 J | 212 B | 17.6 B | 5360 J | 28.6 B |
| LEAD, FILTERED | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| MAGNESIUM, FILTERED | 2150 J | 3580 J | 1240 J | 2100 J | 6830 J | 944 J |
| MANGANESE, FILTERED | 856 J | 427 J | 43.6 J | 50 J | 1480 J | 212 J |
| MERCURY, FILTERED | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 7.5 U | 34.2 | 19 | 7.5 U | 11.9 | 7.5 U |
| POTASSIUM, FILTERED | 4990 | 3340 | 1170 | 1540 | 7010 | 758 |
| SELENIUM, FILTERED | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ |
| SILVER, FILTERED | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL |
| SODIUM, FILTERED | 7210 J | 4900 J | 3630 J | 5940 J | 7870 J | 3690 J |
| THALLIUM, FILTERED | 2.9 U | 2.9 U | 4.2 | 2.9 U | 2.9 U | 2.9 U |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 11.9 | 10 B | 4.8 B | 4.1 B | 23.1 | 20.7 |

# APPENDIX N

# ANALYTICAL DATA

# SITE 9

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB02-1012 | 09-SB03-CUT | 09-SB04-1012 | 09-SB05-1012 | 09-SB06-1214 | 09-SB07-1012 | 09-SB08-1214 | 09-SB12-1012 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 09SB02 | 09SB03 | 09SB04 | 09SB05 | 09SB06 | 09SB07 | 09SB08 | 09SB12 |
| SAMPLE DATE: | 04/05/95 | 03/21/95 | 03/22/95 | 03/22/95 | 03/22/95 | 03/24/95 | 03/24/95 | 03/22/95 |
| DEPTH INTERVAL (FEET): | 10-12 | N/A | 10-12 | 10-12 | 12-14 | 10-12 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 3790 | 2250 J | 14600 | 13500 | 15900 | 8650 | 3830 | 3190 |
| ANTIMONY | 1.1 B | 0.25 UL | 0.35 L | 0.27 UL | 0.25 UL | 0.46 B | 0.35 B | 0.26 UL |
| ARSENIC | 1.7 K | 0.89 | 4.7 | 0.86 | 0.27 | 4.2 B | 1.4 B | 2.6 |
| BARIUM | 3.6 | 6.7 | 20.0 | 60.6 | 78.2 | 18.4 | 5.6 B | 3.4 |
| BERYLLIUM | 0.14 U | 0.07 UL | 0.44 | 1.9 | 1.9 | 0.53 B | 0.31 B | 0.27 B |
| CADMIUM | 0.52 U | 0.26 U | 0.53 U | 0.56 U | 1.1 | 0.51 U | 1.1 B | 0.55 U |
| CALCIUM | 19.7 B | 283 | 18.0 U | 916 | 738 | 35.5 B | 17.8 B | 18.5 U |
| CHROMIUM | 12.5 | 7.8 J | 24.7 J | 20.9 J | 23.8 J | 15.9 | 6.8 | 20.5 J |
| COBALT | 3.1 U | 1.9 | 3.2 U | 10.9 | 18.9 | 3.2 | 3.1 U | 3.3 U |
| COPPER | 9.0 | 8.7 J | 9.9 B | 14.8 B | 46.7 | 16.0 B | 14.7 B | 7.1 B |
| CYANIDE | 1.1 U | 1.1 U | 1.2 U | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 1.2 U |
| IRON | 15800 | 5260 J | 21500 | 50500 | 50500 | 18100 J | 5020 J | 10700 |
| LEAD | 3.5 | 3.7 L | 9.3 | 5.4 | 5.6 | 6.3 J | 1.4 B | 4.7 |
| MAGNESIUM | 120 K | 107 J | 219 | 4520 | 5570 | 191 | 90.2 | 46.0 |
| MANGANESE | 1.3 L | 19.6 J | 17.0 J | 847 J | 1120 J | 16.5 | 8.5 | 6.8 J |
| MERCURY | 0.06 | 0.19 B | 0.24 B | 0.89 J | 0.37 J | 0.15 B | 0.11 B | 0.34 J |
| NICKEL | 3.8 UL | 1.9 U | 5.0 | 16.9 | 18.0 | 4.7 | 3.8 U | 4.0 U |
| POTASSIUM | 75.4 | 130 | 322 B | 3950 | 3650 B | 182 | 90.2 | 158 B |
| SELENIUM | 0.32 UL | 0.32 UL | 0.34 K | 0.34 U | 0.32 U | 0.55 L | 0.62 L | 0.33 U |
| SILVER | 0.08 U | 0.08 U | 0.08 U | 0.09 U | 0.08 U | 0.08 UJ | 0.08 UJ | 0.08 U |
| SODIUM | 17.2 U | 17.2 U | 26.4 B | 92.1 B | 86.8 B | 16.9 U | 17.0 U | 27.2 B |
| THALLIUM | 0.27 U | 0.26 U | 0.27 U | 0.28 U | 0.50 | 0.27 U | 0.27 U | 0.27 U |
| VANADIUM | 19.4 | 10.1 | 41.2 | 40.4 | 37.7 | 56.7 | 12.8 U | 26.3 |
| ZINC | 1.4 UL | 3.2 | 9.1 B | 58.5 | 76.1 | 4.8 B | 9.7 J | 4.3 B |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 1,2-DICHLOROBENZENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 1,3-DICHLOROBENZENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 1,4-DICHLOROBENZENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2,4,5-TRICHLOROPHENOL | 950 U | 940 U | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| 2,4,6-TRICHLOROPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2,4-DICHLOROPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2,4-DIMETHYLPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2,4-DINITROPHENOL | 950 U | 940 U | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB02-1012 | 09-SB03-CUT | 09-SB04-1012 | 09-SB05-1012 | 09-SB06-1214 | 09-SB07-1012 | 09-SB08-1214 | 09-SB12-1012 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 09SB02 | 09SB03 | 09SB04 | 09SB05 | 09SB06 | 09SB07 | 09SB08 | 09SB12 |
| SAMPLE DATE: | 04/05/95 | 03/21/95 | 03/22/95 | 03/22/95 | 03/22/95 | 03/24/95 | 03/24/95 | 03/22/95 |
| DEPTH INTERVAL (FEET): | 10-12 | N/A | 10-12 | 10-12 | 12-14 | 10-12 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4-DINITROTOLUENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2,6-DINITROTOLUENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2-CHLORONAPHTHALENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2-CHLOROPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2-METHYLNAPHTHALENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2-METHYLPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 2-NITROANILINE | 950 U | 940 UR | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| 2-NITROPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 3,3'-DICHLOROBENZIDINE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 3-NITROANILINE | 950 U | 940 UR | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| 4,6-DINITRO-2-METHYLPHENOL | 950 U | 940 U | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| 4-BROMOPHENYL PHENYL ETHER | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 4-CHLORO-3-METHYLPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 4-CHLOROANILINE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 4-CHLOROPHENYL PHENYL ETHER | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 4-METHYLPHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| 4-NITROANILINE | 950 U | 940 UR | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| 4-NITROPHENOL | 950 U | 940 U | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| ACENAPHTHENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| ACENAPHTHYLENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| ANTHRACENE | 380 U | 61 J | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BENZO(A)ANTHRACENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BENZO(A)PYRENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BENZO(B)FLUORANTHENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BENZO(G,H,I)PERYLENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BENZO(K)FLUORANTHENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BIS(2-CHLOROETHOXY)METHANE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BIS(2-CHLOROETHYL)ETHER | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| BUTYLBENZYL PHTHALATE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| CARBAZOLE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| CHRYSENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| DI-N-BUTYL PHTHALATE | 380 U | 370 UR | 110 B | 69 B | 81 B | 120 B | 50 B | 400 U |
| DI-N-OCTYL PHTHALATE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| DIBENZO(A,H)ANTHRACENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| DIBENZOFURAN | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB02-1012 | 09-SB03-CUT | 09-SB04-1012 | 09-SB05-1012 | 09-SB06-1214 | 09-SB07-1012 | 09-SB08-1214 | 09-SB12-1012 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 09SB02 | 09SB03 | 09SB04 | 09SB05 | 09SB06 | 09SB07 | 09SB08 | 09SB12 |
| SAMPLE DATE: | 04/05/95 | 03/21/95 | 03/22/95 | 03/22/95 | 03/22/95 | 03/24/95 | 03/24/95 | 03/22/95 |
| DEPTH INTERVAL (FEET): | 10-12 | N/A | 10-12 | 10-12 | 12-14 | 10-12 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| DIETHYL PHTHALATE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| DIMETHYL PHTHALATE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| FLUORANTHENE | 380 U | 170 J | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| FLUORENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| HEXACHLOROBENZENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| HEXACHLOROBUTADIENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| HEXACHLOROCYCLOPENTADIENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| HEXACHLOROETHANE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| INDENO(1,2,3-CD)PYRENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| ISOPHORONE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| N-NITROSO-DI-N-PROPYLAMINE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| N-NITROSODIPHENYLAMINE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| NAPHTHALENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| NITROBENZENE | 380 U | 370 UR | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| PENTACHLOROPHENOL | 950 U | 940 U | 970 U | 1020 U | 960 U | 930 U | 930 U | 990 U |
| PHENANTHRENE | 380 U | 190 J | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| PHENOL | 380 U | 370 U | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| PYRENE | 380 U | 190 J | 390 U | 410 U | 380 U | 370 U | 370 U | 400 U |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 2-BUTANONE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 2-HEXANONE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 11 U | 11 U | 1 J | 1 J | 11 U | 11 U | 11 U | 2 J |
| ACETONE | 11 U | 12 J | 12 U | 12 U | 11 B | 11 U | 5 B | 7 B |
| BENZENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| BROMOFORM | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| BROMOMETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| CARBON DISULFIDE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB02-1012 | 09-SB03-CUT | 09-SB04-1012 | 09-SB05-1012 | 09-SB06-1214 | 09-SB07-1012 | 09-SB08-1214 | 09-SB12-1012 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 09SB02 | 09SB03 | 09SB04 | 09SB05 | 09SB06 | 09SB07 | 09SB08 | 09SB12 |
| SAMPLE DATE: | 04/05/95 | 03/21/95 | 03/22/95 | 03/22/95 | 03/22/95 | 03/24/95 | 03/24/95 | 03/22/95 |
| DEPTH INTERVAL (FEET): | 10-12 | N/A | 10-12 | 10-12 | 12-14 | 10-12 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CARBON TETRACHLORIDE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROBENZENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROFORM | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| CHLOROMETHANE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| ETHYLBENZENE | 11 U | 11 U | 12 U | 12 U | 11 U | 1 J | 11 U | 12 U |
| METHYLENE CHLORIDE | 62 | 19 B | 5 B | 6 B | 6 B | 11 U | 2 B | 6 B |
| STYRENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| TETRACHLOROETHENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| TOLUENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| TRICHLOROETHENE | 11 U | 11 U | 12 U | 12 U | 11 U | 1 J | 3 J | 12 U |
| VINYL CHLORIDE | 11 U | 11 U | 12 U | 12 U | 11 U | 11 U | 11 U | 12 U |
| XYLENES, TOTAL | 11 U | 11 U | 12 U | 12 U | 11 U | 6 J | 11 U | 12 U |
| **EXPLOSIVES (ug/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 40.20 U | 40.2 U | 40.2 U | 40.2 U | 40.2 U | 40.2 UJ | 40.2 UJ | 40.2 U |
| 1,3-DINITROBENZENE | 37.21 U | 37.21 U | 37.21 U | 37.21 U | 37.21 U | 37.21 UJ | 37.21 UJ | 37.21 U |
| 2,4,6-TRINITROTOLUENE | 35.59 U | 35.59 U | 35.59 U | 35.59 U | 35.59 U | 35.59 UJ | 35.59 UJ | 35.59 U |
| 2,4-DINITROTOLUENE | 51.57 U | 51.57 U | 51.57 U | 51.57 U | 51.57 U | 51.57 UJ | 51.57 UJ | 51.57 U |
| 2,6-DINITROTOLUENE | 47.65 U | 47.65 U | 47.65 U | 47.65 U | 47.65 U | 47.65 UJ | 47.65 UJ | 47.65 U |
| 2-AMINO-4,6-DINITROTOLUENE | 46.67 U | 46.67 U | 46.67 U | 46.67 U | 46.67 U | 46.67 UJ | 46.67 UJ | 46.67 U |
| 2-NITROTOLUENE | 81.39 U | 81.39 U | 81.39 U | 81.39 U | 81.39 U | 81.39 UJ | 81.39 UJ | 81.39 U |
| 3-NITROTOLUENE | 81.79 U | 81.79 U | 81.79 U | 81.79 U | 81.79 U | 81.79 UJ | 81.79 UJ | 81.79 U |
| 4-AMINO-2,6-DINITROTOLUENE | 40.85 U | 40.85 U | 40.85 U | 40.85 U | 40.85 U | 40.85 UJ | 40.85 UJ | 40.85 U |
| 4-NITROTOLUENE | 87.25 U | 87.25 U | 87.25 U | 87.25 U | 87.25 U | 87.25 UJ | 87.25 UJ | 87.25 U |
| HMX | 70.49 U | 70.49 U | 70.49 U | 70.49 U | 70.49 U | 70.49 UJ | 70.49 UJ | 70.49 U |
| NITROBENZENE | 35.21 U | 35.21 U | 35.21 U | 35.21 U | 35.21 U | 35.21 UJ | 35.21 UJ | 35.21 U |
| RDX | 50.90 U | 50.9 U | 50.9 U | 50.9 U | 50.9 U | 50.9 UJ | 50.9 UJ | 50.9 U |
| TETRYL | 162.65 U | 162.65 U | 162.65 U | 162.65 U | 162.65 U | 162.65 UJ | 162.65 UJ | 162.65 U |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | |
| PH | 4.91 | 6.78 | 4.41 | 4.78 | 5.22 | 4.85 | 4.75 | 4.74 |
| TOTAL KJELDAHL NITROGEN mg/kg | 38.3 B | 56.8 | 15.2 | 20.5 U | 14.9 | 22.7 | 19.4 | 30.5 |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB13-0810 | 09-SB14-1012 | 09-SB15-1214 | 09-SB15-1214-D | 09-SB19-1012 |
|---|---|---|---|---|---|
| LOCATION: | 09SB13 | 09SB14 | 09SB15 | 09SB15 | 09SB19 |
| SAMPLE DATE: | 03/21/95 | 03/21/95 | 03/21/95 | 03/21/95 | 03/24/95 |
| DEPTH INTERVAL (FEET): | 8-10 | 10-12 | 12-14 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | 09-SB15-1214-D | 09-SB15-1214 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | |
| ALUMINUM | 10100 J | 3100 J | 1930 J | 897 J | 5450 |
| ANTIMONY | 0.25 UL | 0.25 UL | 0.74 UL | 0.24 UL | 0.76 B |
| ARSENIC | 2.4 | 1.2 | 0.77 | 1.7 | 2.2 B |
| BARIUM | 17.5 | 1.6 | 4.9 | 3.3 | 4.0 B |
| BERYLLIUM | 0.16 L | 0.07 UL | 0.07 UL | 0.06 UL | 0.45 B |
| CADMIUM | 0.98 B | 0.41 B | 0.26 U | 0.25 U | 1.3 B |
| CALCIUM | 33.6 | 9.0 U | 18.6 | 12.1 | 61.0 B |
| CHROMIUM | 16.6 J | 7.2 J | 11.4 J | 2.3 J | 34.2 |
| COBALT | 2.6 | 1.6 U | 1.5 U | 1.5 U | 3.2 U |
| COPPER | 8.2 J | 7.6 J | 18.1 J | 1.8 J | 35.1 |
| CYANIDE | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.2 U |
| IRON | 18300 J | 11800 J | 3930 J | 412 J | 24800 J |
| LEAD | 5.6 L | 2.8 L | 1.7 L | 2.4 L | 2.2 J |
| MAGNESIUM | 587 J | 22.9 J | 96.7 J | 103 J | 58.5 |
| MANGANESE | 73.1 J | 2.8 J | 0.47 UJ | 0.45 UJ | 11.2 |
| MERCURY | 0.88 J | 0.15 B | 0.32 J | 0.24 B | 0.32 B |
| NICKEL | 4.1 | 2.0 U | 1.9 U | 1.8 U | 4.0 U |
| POTASSIUM | 405 | 88.9 | 191 | 103 | 109 |
| SELENIUM | 0.32 UL | 0.32 UL | 0.64 L | 1.2 L | 0.33 UL |
| SILVER | 0.08 U | 0.08 U | 0.08 U | 0.07 U | 0.08 UJ |
| SODIUM | 17.5 U | 17.5 U | 16.9 U | 16.3 U | 17.8 U |
| THALLIUM | 0.26 U | 0.26 U | 0.26 U | 0.25 U | 0.28 U |
| VANADIUM | 26.4 | 17.4 | 20.5 | 3.6 | 45.9 |
| ZINC | 10.8 | 1.5 | 0.69 U | 0.66 U | 12.6 J |
| **SEMIVOLATILES (ug/kg)** | | | | | |
| 1,2,4-TRICHLOROBENZENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 1,2-DICHLOROBENZENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 1,3-DICHLOROBENZENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 1,4-DICHLOROBENZENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 2,4,5-TRICHLOROPHENOL | 960 U | 960 U | 930 U | 900 U | 980 U |
| 2,4,6-TRICHLOROPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 2,4-DICHLOROPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 2,4-DIMETHYLPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 2,4-DINITROPHENOL | 960 U | 960 U | 930 U | 900 U | 980 U |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB13-0810 | 09-SB14-1012 | 09-SB15-1214 | 09-SB15-1214-D | 09-SB19-1012 |
|---|---|---|---|---|---|
| LOCATION: | 09SB13 | 09SB14 | 09SB15 | 09SB15 | 09SB19 |
| SAMPLE DATE: | 03/21/95 | 03/21/95 | 03/21/95 | 03/21/95 | 03/24/95 |
| DEPTH INTERVAL (FEET): | 8-10 | 10-12 | 12-14 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | 09-SB15-1214-D | 09-SB15-1214 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4-DINITROTOLUENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 2,6-DINITROTOLUENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 2-CHLORONAPHTHALENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 2-CHLOROPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 2-METHYLNAPHTHALENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 2-METHYLPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 2-NITROANILINE | 960 UR | 960 UR | 930 UR | 900 UR | 980 U |
| 2-NITROPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 3,3'-DICHLOROBENZIDINE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 3-NITROANILINE | 960 UR | 960 UR | 930 UR | 900 UR | 980 U |
| 4,6-DINITRO-2-METHYLPHENOL | 960 U | 960 U | 930 U | 900 U | 980 U |
| 4-BROMOPHENYL PHENYL ETHER | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 4-CHLORO-3-METHYLPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 4-CHLOROANILINE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 4-CHLOROPHENYL PHENYL ETHER | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| 4-METHYLPHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| 4-NITROANILINE | 960 UR | 960 UR | 930 UR | 900 UR | 980 U |
| 4-NITROPHENOL | 960 U | 960 U | 930 U | 900 U | 980 U |
| ACENAPHTHENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| ACENAPHTHYLENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| ANTHRACENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BENZO(A)ANTHRACENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BENZO(A)PYRENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BENZO(B)FLUORANTHENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BENZO(G,H,I)PERYLENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BENZO(K)FLUORANTHENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BIS(2-CHLOROETHOXY)METHANE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BIS(2-CHLOROETHYL)ETHER | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| BUTYLBENZYL PHTHALATE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| CARBAZOLE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| CHRYSENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| DI-N-BUTYL PHTHALATE | 120 B | 48 B | 70 B | 360 UR | 78 B |
| DI-N-OCTYL PHTHALATE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| DIBENZO(A,H)ANTHRACENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| DIBENZOFURAN | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB13-0810 | 09-SB14-1012 | 09-SB15-1214 | 09-SB15-1214-D | 09-SB19-1012 |
|---|---|---|---|---|---|
| LOCATION: | 09SB13 | 09SB14 | 09SB15 | 09SB15 | 09SB19 |
| SAMPLE DATE: | 03/21/95 | 03/21/95 | 03/21/95 | 03/21/95 | 03/24/95 |
| DEPTH INTERVAL (FEET): | 8-10 | 10-12 | 12-14 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | 09-SB15-1214-D | 09-SB15-1214 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| DIETHYL PHTHALATE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| DIMETHYL PHTHALATE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| FLUORANTHENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| FLUORENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| HEXACHLOROBENZENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| HEXACHLOROBUTADIENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| HEXACHLOROCYCLOPENTADIENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| HEXACHLOROETHANE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| INDENO(1,2,3-CD)PYRENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| ISOPHORONE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| N-NITROSO-DI-N-PROPYLAMINE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| N-NITROSODIPHENYLAMINE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| NAPHTHALENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| NITROBENZENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| PENTACHLOROPHENOL | 960 U | 960 U | 930 U | 900 U | 980 U |
| PHENANTHRENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| PHENOL | 380 U | 380 U | 370 U | 360 U | 390 U |
| PYRENE | 380 UR | 380 UR | 370 UR | 360 UR | 390 U |
| **VOLATILES (ug/kg)** | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,1-DICHLOROETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,1-DICHLOROETHENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 12 U | 11 U | 11 U | 12 U |
| 1,2-DICHLOROPROPANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 2-BUTANONE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 2-HEXANONE | 11 U | 12 U | 11 U | 11 U | 12 U |
| 4-METHYL-2-PENTANONE | 11 U | 12 U | 11 U | 11 U | 12 U |
| ACETONE | 7 J | 12 U | 11 U | 11 U | 12 U |
| BENZENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| BROMODICHLOROMETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| BROMOFORM | 11 U | 12 U | 11 U | 11 U | 12 U |
| BROMOMETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| CARBON DISULFIDE | 11 U | 12 U | 11 U | 11 U | 12 U |

TABLE N-1

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SUBSURFACE SOIL



| SAMPLE I.D.: | 09-SB13-0810 | 09-SB14-1012 | 09-SB15-1214 | 09-SB15-1214-D | 09-SB19-1012 |
|---|---|---|---|---|---|
| LOCATION: | 09SB13 | 09SB14 | 09SB15 | 09SB15 | 09SB19 |
| SAMPLE DATE: | 03/21/95 | 03/21/95 | 03/21/95 | 03/21/95 | 03/24/95 |
| DEPTH INTERVAL (FEET): | 8-10 | 10-12 | 12-14 | 12-14 | 10-12 |
| ASSOCIATED DUPLICATE: | | | 09-SB15-1214-D | 09-SB15-1214 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CARBON TETRACHLORIDE | 11 U | 12 U | 11 U | 11 U | 12 U |
| CHLOROBENZENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| CHLOROETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| CHLOROFORM | 11 U | 12 U | 11 U | 11 U | 12 U |
| CHLOROMETHANE | 11 U | 12 U | 11 U | 11 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| ETHYLBENZENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| METHYLENE CHLORIDE | 13 B | 18 B | 21 B | 22 B | 3 B |
| STYRENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| TETRACHLOROETHENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| TOLUENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 12 U | 11 U | 11 U | 12 U |
| TRICHLOROETHENE | 11 U | 12 U | 11 U | 11 U | 5 J |
| VINYL CHLORIDE | 11 U | 12 U | 11 U | 11 U | 12 U |
| XYLENES, TOTAL | 11 U | 12 U | 11 U | 11 U | 12 U |
| **EXPLOSIVES (ug/kg)** | | | | | |
| 1,3,5-TRINITROBENZENE | 40.2 U | 40.2 U | 40.2 U | 40.2 U | 40.2 UJ |
| 1,3-DINITROBENZENE | 37.21 U | 37.21 U | 37.21 U | 37.21 U | 37.21 UJ |
| 2,4,6-TRINITROTOLUENE | 35.59 U | 35.59 U | 35.59 U | 35.59 U | 35.59 UJ |
| 2,4-DINITROTOLUENE | 51.57 U | 51.57 U | 51.57 U | 51.57 U | 51.57 UJ |
| 2,6-DINITROTOLUENE | 47.65 U | 47.65 U | 47.65 U | 47.65 U | 47.65 UJ |
| 2-AMINO-4,6-DINITROTOLUENE | 46.67 U | 46.67 U | 46.67 U | 46.67 U | 46.67 UJ |
| 2-NITROTOLUENE | 81.39 U | 81.39 U | 81.39 U | 81.39 U | 81.39 UJ |
| 3-NITROTOLUENE | 81.79 U | 81.79 U | 81.79 U | 81.79 U | 81.79 UJ |
| 4-AMINO-2,6-DINITROTOLUENE | 40.85 U | 40.85 U | 40.85 U | 40.85 U | 40.85 UJ |
| 4-NITROTOLUENE | 87.25 U | 87.25 U | 87.25 U | 87.25 U | 87.25 UJ |
| HMX | 70.49 U | 70.49 U | 70.49 U | 70.49 U | 70.49 UJ |
| NITROBENZENE | 35.21 U | 35.21 U | 35.21 U | 35.21 U | 35.21 UJ |
| RDX | 50.9 U | 50.9 U | 50.9 U | 50.9 U | 50.9 UJ |
| TETRYL | 162.65 U | 162.65 U | 162.65 U | 162.65 U | 162.65 UJ |
| **MISCELLANEOUS PARAMETERS** | | | | | |
| PH | 4.68 | 4.66 | 5.02 | 4.78 | 5.17 |
| TOTAL KJELDAHL NITROGEN mg/kg | 248 | 79.0 | 45.2 | 38.8 | 29.5 |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9TW0010001 | 9TW0020001 | 9GW010001 | 9GW010001-D | 9GW020001 | 9GW030001 | 9GW040001 | 9GW050001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9TW001 | 9TW002 | 9GW01 | 9GW01 | 9GW02 | 9GW03 | 9GW04 | 9GW05 |
| SAMPLE DATE: | 12/21/98 | 01/11/99 | 02/22/99 | 02/22/99 | 02/21/99 | 02/24/99 | 02/23/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 9GW010001-D | 9GW010001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 38200 J | 5000 | 114 B | 70.0 B | 766 | 165 | 95.4 B | 22100 |
| ANTIMONY | 2.8 UL | 2.8 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 22.1 | 5.1 K | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 25.0 |
| BARIUM | 117 | 58.6 | 17.8 | 18.3 | 109 | 42.6 J | 38.6 J | 170 |
| BERYLLIUM | 0.06 U | 0.70 B | 0.12 B | 0.16 B | 1.1 B | 0.10 UL | 0.10 UL | 0.99 B |
| CADMIUM | 0.20 U | 0.20 U | 2.7 UJ | 2.7 UJ | 2.7 UJ | 2.7 UL | 26.9 | 2.7 UJ |
| CALCIUM | 6540 | 4610 | 3570 | 3520 | 8750 | 2160 J | 2280 J | 3800 |
| CHROMIUM | 193 | 5.9 | 2.3 U | 2.3 U | 7.8 B | 32.0 | 6.6 | 115 |
| COBALT | 15.9 | 14.0 | 3.3 U | 3.3 U | 6.8 | 30.4 | 3.3 U | 20.1 |
| COPPER | 65.4 | 6.3 B | 3.2 | 4.1 | 4.9 | 6.3 B | 3.9 B | 75.0 |
| CYANIDE | 2.7 U | 2.7 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 75000 | 7420 | 169 J | 69.4 B | 8080 J | 1280 J | 393 J | 74500 J |
| LEAD | 30.5 J | 3.1 L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 18.9 |
| MAGNESIUM | 4860 | 3790 | 1700 | 1730 | 7470 | 2950 | 3700 | 7510 |
| MANGANESE | 449 | 1160 | 16.9 | 15.8 | 642 | 61.2 | 35.0 | 248 |
| MERCURY | 0.79 | 0.10 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U. | 0.51 | 12.0 |
| NICKEL | 23.5 | 10.7 | 7.5 U | 7.5 U | 15.8 | 28.3 | 7.5 U | 19.9 |
| POTASSIUM | 3930 | 3290 | 1530 B | 2000 B | 5160 | 1490 | 1520 | 3960 |
| SELENIUM | 19.4 | 2.8 UL | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 24.8 |
| SILVER | 0.70 U | 0.70 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 3.9 B |
| SODIUM | 18600 | 10300 | 6420 | 6160 | 7180 | 23000 | 18800 | 29000 |
| THALLIUM | 8.1 B | 5.6 U | 3.3 B | 5.0 B | 2.9 U | 2.9 U | 2.9 U | 3.4 B |
| VANADIUM | 179 | 8.3 | 2.7 B | 2.6 B | 4.0 B | 2.1 U | 2.1 U | 162 |
| ZINC | 117 J | 30.1 B | 12.1 B | 5.9 B | 50.2 | 8.1 J | 51.5 J | 41.1 |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4-DINITROPHENOL | 20 UJ | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-CHLOROPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9TW0010001 | 9TW0020001 | 9GW010001 | 9GW010001-D | 9GW020001 | 9GW030001 | 9GW040001 | 9GW050001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9TW001 | 9TW002 | 9GW01 | 9GW01 | 9GW02 | 9GW03 | 9GW04 | 9GW05 |
| SAMPLE DATE: | 12/21/98 | 01/11/99 | 02/22/99 | 02/22/99 | 02/21/99 | 02/24/99 | 02/23/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 9GW010001-D | 9GW010001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 3-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4,6-DINITRO-2-METHYLPHENOL | 20 UJ | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-NITROANILINE | 20 U | 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 | 20 U |
| ACENAPHTHENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| ACENAPHTHYLENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| ANTHRACENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(A)PYRENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(B)FLUORANTHENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(G,H,I)PERYLENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(K)FLUORANTHENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| CHRYSENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIBENZOFURAN | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIETHYL PHTHALATE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIMETHYL PHTHALATE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| FLUORANTHENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| FLUORENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROBENZENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROCYCLOPENTADIENE | 5 UR | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROETHANE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| [illegible]NO(1,2,3-CD)PYRENE | 5 U | 5 U | 5.0 [illegible] | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 [illegible] |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9TW0010001 | 9TW0020001 | 9GW010001 | 9GW010001-D | 9GW020001 | 9GW030001 | 9GW040001 | 9GW050001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9TW001 | 9TW002 | 9GW01 | 9GW01 | 9GW02 | 9GW03 | 9GW04 | 9GW05 |
| SAMPLE DATE: | 12/21/98 | 01/11/99 | 02/22/99 | 02/22/99 | 02/21/99 | 02/24/99 | 02/23/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 9GW010001-D | 9GW010001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| NAPHTHALENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| NITROBENZENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| PHENOL | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| PYRENE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 U | 1 U | 1.0 UR | 1.0 UR | 1.0 UR | 1 UR | 1 UR | 1.0 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,4 DICHLOROBENZENE | 0.11 B | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 2-BUTANONE | 5 UR | 5 UR | 5.0 UR | 5.0 UR | 5.0 UR | 5 UR | 5 UR | 5.0 UR |
| 2-HEXANONE | 5 UR | 5 UR | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5.0 U | 5.0 U | 5.0 U | 5 U | 5 U | 5.0 U |
| ACETONE | 12 L | 5 UR | 5.0 UR | 1.9 B | 5.0 UR | 5 UR | 5 UR | 5.0 UR |
| BENZENE | 0.19 J | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 0.35 J | 0.33 B |
| BROMOFORM | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMOMETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 0.24 J | 1 U | 1.0 U |
| CARBON DISULFIDE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1.0 U | 1.0 U | 0.58 J | 1 U | 1 U | 1.0 U |
| CHLOROBENZENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLOROETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLOROFORM | 6.4 | 1.1 | 1.8 B | 1.9 B | 0.89 B | 0.56 J | 6.4 | 4.5 B |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9TW0010001 | 9TW0020001 | 9GW010001 | 9GW010001-D | 9GW020001 | 9GW030001 | 9GW040001 | 9GW050001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9TW001 | 9TW002 | 9GW01 | 9GW01 | 9GW02 | 9GW03 | 9GW04 | 9GW05 |
| SAMPLE DATE: | 12/21/98 | 01/11/99 | 02/22/99 | 02/22/99 | 02/21/99 | 02/24/99 | 02/23/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 9GW010001-D | 9GW010001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 0.28 J | 0.30 J | 0.32 J | 0.49 J | 1 U | 1 U | 1.0 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| ETHYLBENZENE | 0.11 J | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| METHYLENE CHLORIDE | 1.9 B | 0.79 B | 2.0 U | 2.0 U | 2 U | 2 U | 2 U | 2.0 U |
| STYRENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TETRACHLOROETHENE | 1 U | 0.28 J | 0.24 J | 0.26 J | 5.0 | 0.22 J | 1 U | 1.0 U |
| TOLUENE | 0.36 J | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TRICHLOROETHENE | 1 U | 2.2 | 9.8 | 11 | 9.1 J | 0.44 J | 1 U | 0.41 J |
| VINYL CHLORIDE | 1 U | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| XYLENES, TOTAL | 0.52 B | 1 U | 1.0 U | 1.0 U | 1.0 U | 1 U | 1 U | 1.0 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 UL | 0.0092 B | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| 4,4'-DDE | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| 4,4'-DDT | 0.10 UL | 0.0049 J | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| ALDRIN | 0.050 UL | 0.004 B | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| ALPHA-BHC | 0.050 UL | 0.050 UJ | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| ALPHA-CHLORDANE | 0.050 UL | 0.050 UJ | 0.29 | 0.31 | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| AROCLOR-1016 | 1.0 UL | 1.0 UJ | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 UJ |
| AROCLOR-1221 | 2.0 UL | 2.0 UJ | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 2.2 U | 2.0 UJ |
| AROCLOR-1232 | 1.0 UL | 1.0 UJ | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 UJ |
| AROCLOR-1242 | 1.0 UL | 1.0 UJ | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 UJ |
| AROCLOR-1248 | 1.0 UL | 1.0 UJ | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 UJ |
| AROCLOR-1254 | 1.0 UL | 1.0 UJ | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 UJ |
| AROCLOR-1260 | 1.0 UL | 1.0 UJ | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 UJ |
| BETA-BHC | 0.050 UL | 0.024 R | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| DELTA-BHC | 0.050 UL | 0.017 R | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| DIELDRIN | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| ENDOSULFAN I | 0.050 UL | 0.050 UJ | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| ENDOSULFAN II | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| ENDOSULFAN SULFATE | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| ENDRIN | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| ENDRIN ALDEHYDE | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| ENDRIN KETONE | 0.10 UL | 0.10 UJ | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.11 U | 0.10 UJ |
| GAMMA-BHC (LINDANE) | 0.050 UL | 0.050 UJ | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| GAMMA-CHLORDANE | 0.050 UL | 0.050 UJ | 0.[illegible] | 0.26 | 0.050 U | 0.052 U | 0.056 U | 0.05[illegible] |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9TW0010001 | 9TW0020001 | 9GW010001 | 9GW010001-D | 9GW020001 | 9GW030001 | 9GW040001 | 9GW050001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9TW001 | 9TW002 | 9GW01 | 9GW01 | 9GW02 | 9GW03 | 9GW04 | 9GW05 |
| SAMPLE DATE: | 12/21/98 | 01/11/99 | 02/22/99 | 02/22/99 | 02/21/99 | 02/24/99 | 02/23/99 | 02/21/99 |
| ASSOCIATED DUPLICATE: | | | 9GW010001-D | 9GW010001 | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 UL | 0.050 UJ | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| HEPTACHLOR EPOXIDE | 0.050 UL | 0.013 J | 0.050 U | 0.050 U | 0.050 U | 0.052 U | 0.056 U | 0.050 UJ |
| METHOXYCHLOR | 0.50 UL | 0.50 UJ | 0.50 U | 0.50 U | 0.50 U | 0.52 U | 0.56 U | 0.50 UJ |
| TOXAPHENE | 5.0 UL | 5.0 UJ | 5.0 U | 5.0 U | 5.0 U | 5.2 U | 5.6 U | 5.0 UJ |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 2.4 | 2.2 | 10 | 10 | 0.50 U | 0.50 U | 2.7 | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 5.8 | 2.9 | 130 | 130 | 0.50 U | 0.50 U | 4.5 | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 4.0 U | 4.0 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | |
| AMMONIUM PERCHLORATE | 8.0 U | 7.9 L | 5 U | 5 U | 5 U | 5 U | 11.2 K | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW5B0001 | 9GW060001 | 9GW070001 | 9GW440001 | 9GW550001 | 9GW57D0001 | 9GW57S0001 | 9GW590001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW05B | 9GW06 | 9GW07 | 9PZ44 | 9PZ55 | 9GW57D | 9GW57S | 9GW59 |
| SAMPLE DATE: | 02/21/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/24/99 | 02/22/99 | 02/22/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 21200 | 1090 | 1430 | 5830 | 9260 | 21.4 B | 108000 | 140 |
| ANTIMONY | 1.9 U | 1.9 U | 2.0 | 2.3 B | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 24.4 | 2.1 | 2.2 | 4.3 | 10.7 | 1.5 U | 22.7 | 1.5 U |
| BARIUM | 98.6 | 90.4 J | 55.0 J | 117 J | 45.6 J | 28.6 | 369 | 35.6 J |
| BERYLLIUM | 0.89 B | 0.10 UL | 0.10 UL | 0.10 UL | 0.10 UL | 0.13 B | 8.3 | 0.10 UL |
| CADMIUM | 2.7 UJ | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UJ | 2.7 UJ | 3.6 UL |
| CALCIUM | 4710 | 3640 J | 4870 J | 5260 J | 2390 J | 3550 | 5570 | 6140 J |
| CHROMIUM | 148 | 19.5 | 109 | 32.9 | 51.0 | 2.3 U | 144 | 8.8 |
| COBALT | 18.7 | 3.3 U | 27.6 | 36.9 | 4.6 | 3.3 U | 87.5 K | 18.7 |
| COPPER | 84.0 | 9.7 B | 11.1 B | 56.1 | 44.5 | 2.4 U | 129 | 4.3 B |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 93200 J | 6070 J | 6380 J | 22600 J | 55100 J | 65.8 B | 136000 J | 246 B |
| LEAD | 35.0 | 2.0 B | 1.5 B | 25.2 | 15.5 | 1.0 U | 58.7 | 1.0 U |
| MAGNESIUM | 6670 | 6040 | 5560 | 6980 | 2410 | 2070 | 14000 | 2250 |
| MANGANESE | 95.8 | 97.9 | 40.7 | 1840 | 42.8 | 13.7 | 1390 | 30.5 |
| MERCURY | 4.2 | 0.23 K | 0.20 U | 0.20 U | 0.96 | 0.20 U | 0.27 | 0.20 U |
| NICKEL | 8.3 | 10.0 | 85.8 | 36.0 | 9.4 | 7.5 U | 70.8 L | 7.5 U |
| POTASSIUM | 3150 | 2660 | 2040 | 7700 | 2140 | 1110 B | 6920 | 1250 |
| SELENIUM | 12.2 | 2.8 | 2.5 U | 2.5 U | 8.2 | 2.5 U | 6.4 K | 2.5 U |
| SILVER | 8.9 B | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 6.9 B | 2.8 U |
| SODIUM | 23600 | 26500 | 17700 | 47800 | 7630 | 9370 | 7620 | 9390 |
| THALLIUM | 2.9 U | 3.0 B | 3.4 B | 2.9 U | 2.9 U | 2.9 U | 4.9 B | 2.9 U |
| VANADIUM | 209 | 11.0 | 9.2 | 18.6 | 71.0 | 2.1 U | 203 | 2.1 U |
| ZINC | 26.4 | 9.4 J | 13.5 J | 98.2 J | 20.9 J | 3.2 B | 161 | 16.6 J |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4-DICHLOROPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,6-DINITROTOLUENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-CHLORONAPHTHALENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-CHLOROPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-METHYLNAPHTHALENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| [illegible]THYLPHENOL | 5.0 U | 5 U | 5 [illegible] | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 [illegible] |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW5B0001 | 9GW060001 | 9GW070001 | 9GW440001 | 9GW550001 | 9GW57D0001 | 9GW57S0001 | 9GW590001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW05B | 9GW06 | 9GW07 | 9PZ44 | 9PZ55 | 9GW57D | 9GW57S | 9GW59 |
| SAMPLE DATE: | 02/21/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/24/99 | 02/22/99 | 02/22/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 3-NITROANILINE | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| 4,6-DINITRO-2-METHYLPHENOL | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-CHLOROANILINE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-METHYLPHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| ACENAPHTHENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| ACENAPHTHYLENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| ANTHRACENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(A)ANTHRACENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(A)PYRENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(B)FLUORANTHENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(G,H,I)PERYLENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(K)FLUORANTHENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 2.0 J | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BUTYLBENZYL PHTHALATE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| CHRYSENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DI-N-BUTYL PHTHALATE | 1.4 J | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIBENZOFURAN | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIETHYL PHTHALATE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIMETHYL PHTHALATE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| FLUORANTHENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| FLUORENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROBENZENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROBUTADIENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROETHANE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW5B0001 | 9GW060001 | 9GW070001 | 9GW440001 | 9GW550001 | 9GW57D0001 | 9GW57S0001 | 9GW590001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW05B | 9GW06 | 9GW07 | 9PZ44 | 9PZ55 | 9GW57D | 9GW57S | 9GW59 |
| SAMPLE DATE: | 02/21/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/24/99 | 02/22/99 | 02/22/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| N-NITROSODIPHENYLAMINE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| NAPHTHALENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| NITROBENZENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| PHENOL | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| PYRENE | 5.0 U | 5 U | 5 U | 5.2 U | 5 U | 5.0 U | 5.0 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1.0 U | 1 U | 1 U | 0.34 J | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1-DICHLOROETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1-DICHLOROETHENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2 DICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1.0 UR | 1 UR | 1 UR | 1.0 UR | 1 UR | 1.0 UR | 1.0 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2-DICHLOROETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2-DICHLOROPROPANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,3 DICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,4 DICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 2-BUTANONE | 5.0 UR | 5 UR | 5 UR | 5.0 UR | 5 UR | 5.0 UR | 5.0 UR | 5 UR |
| 2-HEXANONE | 5.0 U | 5 U | 5 U | 5.0 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-METHYL-2-PENTANONE | 5.0 U | 5 U | 5 U | 5.0 U | 5 U | 5.0 U | 5.0 U | 5 U |
| ACETONE | 1.9 B | 5 UR | 5 UR | 1.9 B | 5 UR | 1.9 B | 5.0 UR | 5 UR |
| BENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMOCHLOROMETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMODICHLOROMETHANE | 1.0 U | 0.44 J | 1 U | 0.42 B | 0.92 J | 1.0 U | 1.0 U | 1 U |
| BROMOFORM | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMOMETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CARBON DISULFIDE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CARBON TETRACHLORIDE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLOROBENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLORODIBROMOMETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLOROETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLOROFORM | 0.70 B | 4 | 2? | 9.6 B | 6.2 | 1.8 B | 0.92 B | 1 |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW5B0001 | 9GW060001 | 9GW070001 | 9GW440001 | 9GW550001 | 9GW57D0001 | 9GW57S0001 | 9GW590001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW05B | 9GW06 | 9GW07 | 9PZ44 | 9PZ55 | 9GW57D | 9GW57S | 9GW59 |
| SAMPLE DATE: | 02/21/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/24/99 | 02/22/99 | 02/22/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 4.1 | 0.95 J | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| ETHYLBENZENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| METHYLENE CHLORIDE | 2.0 U | 2 U | 2 U | 0.37 B | 2 U | 2.0 U | 2.0 U | 0.46 B |
| STYRENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TETRACHLOROETHENE | 0.62 J | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TOLUENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TRICHLOROETHENE | 1.0 U | 0.28 J | 1 U | 1.0 U | 0.99 J | 27 | 11 J | 1 U |
| VINYL CHLORIDE | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| XYLENES, TOTAL | 1.0 U | 1 U | 1 U | 1.0 U | 1 U | 1.0 U | 1.0 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| 4,4'-DDE | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| 4,4'-DDT | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| ALDRIN | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| ALPHA-BHC | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| ALPHA-CHLORDANE | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| AROCLOR-1016 | 1.0 UL | 1.0 U | 1.0 UJ | 1.0 UJ | 1.0 UJ | 1.0 U | 1.0 U | 1.1 U |
| AROCLOR-1221 | 2.0 UL | 2.1 U | 2.1 UJ | 2.0 UJ | 2.0 UJ | 2.0 U | 2.0 U | 2.2 U |
| AROCLOR-1232 | 1.0 UL | 1.0 U | 1.0 UJ | 1.0 UJ | 1.0 UJ | 1.0 U | 1.0 U | 1.1 U |
| AROCLOR-1242 | 1.0 UL | 1.0 U | 1.0 UJ | 1.0 UJ | 1.0 UJ | 1.0 U | 1.0 U | 1.1 U |
| AROCLOR-1248 | 1.0 UL | 1.0 U | 1.0 UJ | 1.0 UJ | 1.0 UJ | 1.0 U | 1.0 U | 1.1 U |
| AROCLOR-1254 | 1.0 UL | 1.0 U | 1.0 UJ | 1.0 UJ | 1.0 UJ | 1.0 U | 1.0 U | 1.1 U |
| AROCLOR-1260 | 1.0 UL | 1.0 U | 1.0 UJ | 1.0 UJ | 1.0 UJ | 1.0 U | 1.0 U | 1.1 U |
| BETA-BHC | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| DELTA-BHC | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| DIELDRIN | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| ENDOSULFAN I | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| ENDOSULFAN II | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| ENDOSULFAN SULFATE | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| ENDRIN | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| ENDRIN ALDEHYDE | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| ENDRIN KETONE | 0.10 UL | 0.10 U | 0.10 UJ | 0.10 UJ | 0.10 UJ | 0.10 U | 0.10 U | 0.11 U |
| GAMMA-BHC (LINDANE) | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| GAMMA-CHLORDANE | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW5B0001 | 9GW060001 | 9GW070001 | 9GW440001 | 9GW550001 | 9GW57D0001 | 9GW57S0001 | 9GW590001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW05B | 9GW06 | 9GW07 | 9PZ44 | 9PZ55 | 9GW57D | 9GW57S | 9GW59 |
| SAMPLE DATE: | 02/21/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/24/99 | 02/22/99 | 02/22/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| HEPTACHLOR EPOXIDE | 0.050 UL | 0.052 U | 0.052 UJ | 0.050 UJ | 0.050 UJ | 0.050 U | 0.050 U | 0.054 U |
| METHOXYCHLOR | 0.50 UL | 0.52 U | 0.52 UJ | 0.50 UJ | 0.50 UJ | 0.50 U | 0.50 U | 0.54 U |
| TOXAPHENE | 5.0 UL | 5.2 U | 5.2 UJ | 5.0 UJ | 5.0 UJ | 5.0 U | 5.0 U | 5.4 U |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.30 | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.41 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 9.8 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 2.5 | 0.88 | 0.78 |
| NITROBENZENE | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 17 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 6.1 | 1.5 | 1.4 |
| TETRYL | 0.40 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | |
| AMMONIUM PERCHLORATE | 16 K | 5 U | 5 U | 5 U | 5 U | 39.1 K | 17.6 K | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW740001 | 9GW750001 | 9GW830001 | 9GW1000001 | 9GW1010001 | 9GW1020001 | 9GW1020001-D | 9GW1030001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW74 | 9GW75 | 9GW83 | 9GW100 | 9GW101 | 9GW102 | 9GW102 | 9GW103 |
| SAMPLE DATE: | 02/24/99 | 02/23/99 | 02/23/99 | 02/19/99 | 02/22/99 | 02/23/99 | 02/23/99 | 02/22/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9GW1020001-D | 9GW1020001 | 9GW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 1090 | 34.4 B | 5170 | 8730 | 331 | 220 | 164 | 90.5 B |
| ANTIMONY | 1.9 U | 1.9 U | 2.0 | 5.9 B | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 2.0 | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 49.7 J | 14.8 J | 87.2 J | 98.9 | 45.7 | 35.3 J | 35.3 J | 22.8 |
| BERYLLIUM | 0.10 UL | 0.10 UL | 0.10 UL | 0.70 B | 0.19 B | 0.10 UL | 0.10 UL | 0.13 B |
| CADMIUM | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 U | 2.7 UJ | 2.7 UL | 2.7 UL | 2.7 UJ |
| CALCIUM | 6180 J | 4640 J | 8890 J | 7750 | 19200 | 1800 J | 1910 J | 4970 |
| CHROMIUM | 11.0 | 4.7 | 9.4 | 12.3 B | 9.0 B | 44.6 | 30.7 | 2.3 U |
| COBALT | 3.3 U | 3.3 U | 12.3 | 13.0 | 4.7 | 74.2 | 77.5 | 7.6 |
| COPPER | 6.9 B | 2.4 U | 6.0 B | 14.6 | 4.6 | 9.1 B | 8.1 B | 2.4 U |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 3430 J | 78.2 B | 16100 J | 14400 | 753 J | 1540 J | 1060 J | 58.9 B |
| LEAD | 1.5 B | 1.0 U | 4.8 B | 4.4 B | 1.0 U | 1.7 B | 2.2 B | 1.0 U |
| MAGNESIUM | 4850 | 5060 | 7730 | 5830 | 9560 | 2470 | 2510 | 3880 |
| MANGANESE | 95.7 | 12.4 | 1930 | 1300 | 870 | 283 | 279 | 115 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 23.2 | 7.5 U | 17.0 | 9.7 | 11.6 | 44.8 | 35.3 | 7.5 U |
| POTASSIUM | 2910 | 1590 | 6760 | 4940 | 7190 | 2300 | 2490 | 3090 |
| SELENIUM | 2.5 U | 2.5 U | 2.5 U | 2.8 B | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM | 8790 | 20400 | 10200 | 8330 | 20800 | 5100 | 5050 | 15200 |
| THALLIUM | 2.9 U | 2.9 U | 3.5 B | 2.9 U | 2.9 U | 2.9 U | 3.9 B | 2.9 U |
| VANADIUM | 2.1 U | 2.1 U | 10.9 B | 17.4 B | 4.0 B | 2.1 U | 2.1 U | 2.1 U |
| ZINC | 53.3 J | 43.0 J | 33.7 J | 38.2 | 81.3 | 110 J | 79.6 J | 36.6 |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,4-DINITROPHENOL | 20 U | 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 | 5.0 U | 5 U | 5 U | 5.0 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-CHLOROPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW740001 | 9GW750001 | 9GW830001 | 9GW1000001 | 9GW1010001 | 9GW1020001 | 9GW1020001-D | 9GW1030001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW74 | 9GW75 | 9GW83 | 9GW100 | 9GW101 | 9GW102 | 9GW102 | 9GW103 |
| SAMPLE DATE: | 02/24/99 | 02/23/99 | 02/23/99 | 02/19/99 | 02/22/99 | 02/23/99 | 02/23/99 | 02/22/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9GW1020001-D | 9GW1020001 | 9GW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 3-NITROANILINE | 20 U | 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 | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-NITROANILINE | 20 U | 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 | 20 U |
| ACENAPHTHENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| ACENAPHTHYLENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(A)PYRENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(B)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(G,H,I)PERYLENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BENZO(K)FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U | 1.7 J | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| CHRYSENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| DIMETHYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| FLUORANTHENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| FLUORENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROBENZENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| HEXACHLOROETHANE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| IN[illegible]O(1,2,3-CD)PYRENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | [illegible] |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW740001 | 9GW750001 | 9GW830001 | 9GW1000001 | 9GW1010001 | 9GW1020001 | 9GW1020001-D | 9GW1030001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW74 | 9GW75 | 9GW83 | 9GW100 | 9GW101 | 9GW102 | 9GW102 | 9GW103 |
| SAMPLE DATE: | 02/24/99 | 02/23/99 | 02/23/99 | 02/19/99 | 02/22/99 | 02/23/99 | 02/23/99 | 02/22/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9GW1020001-D | 9GW1020001 | 9GW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| NAPHTHALENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| PHENOL | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 R | 1 UR | 1 UR | 1.0 UR | 1 UR | 1 UR | 1.0 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| 2-BUTANONE | 5 UR | 5 R | 5 UR | 5 UR | 5.0 UR | 5 UR | 5 UR | 5.0 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5 U | 5.0 U | 5 U | 5 U | 5.0 U |
| ACETONE | 1.7 B | 5 R | 5 UR | 5 UR | 1.9 B | 5 UR | 5 UR | 1.7 B |
| BENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMOFORM | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CARBON TETRACHLORIDE | 0.24 J | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLOROETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CHLOROFORM | 1.5 | 1 U | 0.2 J | 1.7 | 0.78 B | 1 U | 1 U | 0.87 B |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW740001 | 9GW750001 | 9GW830001 | 9GW1000001 | 9GW1010001 | 9GW1020001 | 9GW1020001-D | 9GW1030001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW74 | 9GW75 | 9GW83 | 9GW100 | 9GW101 | 9GW102 | 9GW102 | 9GW103 |
| SAMPLE DATE: | 02/24/99 | 02/23/99 | 02/23/99 | 02/19/99 | 02/22/99 | 02/23/99 | 02/23/99 | 02/22/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9GW1020001-D | 9GW1020001 | 9GW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1.1 | 3.8 | 1 U | 1 U | 1.0 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| METHYLENE CHLORIDE | 0.23 B | 2 U | 2 U | 2 U | 0.22 B | 2 U | 2 U | 2.0 U |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 0.78 J | 1 U | 1 U | 0.78 J |
| TOLUENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| TRICHLOROETHENE | 1.1 J | 1 U | 1 U | 7.5 | 13 | 1 U | 1 U | 2.9 |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1.0 U | 1 U | 1 U | 1.0 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| ALDRIN | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| ALPHA-BHC | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| ALPHA-CHLORDANE | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.1 UJ | 1.0 UJ | 1.0 UJ | 1.1 U | 1.1 U | 1.0 U |
| AROCLOR-1221 | 2.1 U | 2.0 U | 2.1 UJ | 2.0 UJ | 2.0 UJ | 2.2 U | 2.1 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.1 UJ | 1.0 UJ | 1.0 UJ | 1.1 U | 1.1 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.1 UJ | 1.0 UJ | 1.0 UJ | 1.1 U | 1.1 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.1 UJ | 1.0 UJ | 1.0 UJ | 1.1 U | 1.1 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.1 UJ | 1.0 UJ | 1.0 UJ | 1.1 U | 1.1 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.1 UJ | 1.0 UJ | 1.0 UJ | 1.1 U | 1.1 U | 1.0 U |
| BETA-BHC | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| DELTA-BHC | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| ENDOSULFAN I | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.11 UJ | 0.10 UJ | 0.10 UJ | 0.11 U | 0.11 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| G[illegible]A-CHLORDANE | 0.052 U | 0.051 U | 0.053 U[illegible] | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.[illegible] U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW740001 | 9GW750001 | 9GW830001 | 9GW1000001 | 9GW1010001 | 9GW1020001 | 9GW1020001-D | 9GW1030001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW74 | 9GW75 | 9GW83 | 9GW100 | 9GW101 | 9GW102 | 9GW102 | 9GW103 |
| SAMPLE DATE: | 02/24/99 | 02/23/99 | 02/23/99 | 02/19/99 | 02/22/99 | 02/23/99 | 02/23/99 | 02/22/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9GW1020001-D | 9GW1020001 | 9GW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.052 U | 0.051 U | 0.053 UJ | 0.050 UJ | 0.050 UJ | 0.055 U | 0.053 U | 0.050 U |
| METHOXYCHLOR | 0.52 U | 0.51 U | 0.53 UJ | 0.50 UJ | 0.50 UJ | 0.55 U | 0.53 U | 0.50 U |
| TOXAPHENE | 5.2 U | 5.1 U | 5.3 UJ | 5.0 UJ | 5.0 UJ | 5.5 U | 5.3 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 3 | 0.50 U | 0.50 U | 0.50 U | 1.3 |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 1.4 | 0.50 U | 0.50 U | 41 | 0.83 | 0.50 U | 0.50 U | 2.7 |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 1 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | | |
| AMMONIUM PERCHLORATE | 14.9 K | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 10.7 K |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW1030001-D | 9GW1040001 | 9GW1050001 | 9GW1060001 | 9GW1070001 | 9GW1080001 | 9GWC140001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW103 | 9GW104 | 9GW105 | 9GW106 | 9GW107 | 9GW108 | C14 |
| SAMPLE DATE: | 02/22/99 | 02/23/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/21/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | 9GW1030001 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | |
| ALUMINUM | 91.8 B | 157 | 199 | 240 | 59.5 B | 231 B | 555 |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 3.6 |
| BARIUM | 21.5 | 93.6 | 44.0 J | 13.0 J | 49.1 | 23.0 | 134 |
| BERYLLIUM | 0.10 B | 0.10 UL | 0.10 UL | 0.10 UL | 0.13 B | 0.23 B | 0.10 B |
| CADMIUM | 2.7 UJ | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UJ | 3.7 B | 2.7 UL |
| CALCIUM | 4830 | 11500 | 6980 J | 1050 J | 3700 | 8800 | 62200 |
| CHROMIUM | 2.3 U | 22.8 | 13.0 | 58.5 | 3.2 B | 7.7 B | 3.3 B |
| COBALT | 6.5 | 3.3 U | 14.3 | 31.0 | 3.3 U | 4.7 | 10.1 B |
| COPPER | 2.4 U | 6.7 | 14.7 B | 8.4 B | 3.5 | 4.7 | 17.1 |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 91.0 B | 2860 | 1980 J | 2810 J | 643 J | 4340 J | 1340 |
| LEAD | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.2 |
| MAGNESIUM | 3650 | 6180 | 3530 | 1030 | 2190 | 7110 | 5500 |
| MANGANESE | 114 | 829 | 311 | 73.0 | 45.0 | 722 | 166 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 UL |
| NICKEL | 7.5 U | 19.3 | 7.5 U | 53.8 | 7.5 U | 7.5 U | 7.5 U |
| POTASSIUM | 2460 B | 4630 | 3240 | 1420 | 2720 | 11300 | 11800 |
| SELENIUM | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.9 B | 3.3 B | 3.9 B |
| SODIUM | 14900 | 10500 | 9490 | 4040 | 41400 | 11400 | 14400 |
| THALLIUM | 3.1 B | 6.8 B | 2.9 U | 2.9 U | 3.0 B | 2.9 U | 5.3 B |
| VANADIUM | 2.1 U | 2.1 U | 2.1 U | 2.4 | 2.1 U | 2.1 U | 2.1 U |
| ZINC | 38.2 | 15.1 L | 19.3 J | 22.4 J | 7.0 B | 9.3 B | 43.3 |
| **SEMIVOLATILES (ug/L)** | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4-DICHLOROPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2,6-DINITROTOLUENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-CHLORONAPHTHALENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-CHLOROPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-METHYLNAPHTHALENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 2-METHYLPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW1030001-D | 9GW1040001 | 9GW1050001 | 9GW1060001 | 9GW1070001 | 9GW1080001 | 9GWC140001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW103 | 9GW104 | 9GW105 | 9GW106 | 9GW107 | 9GW108 | C14 |
| SAMPLE DATE: | 02/22/99 | 02/23/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/21/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | 9GW1030001 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 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 PHENYL ETHER | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-CHLOROANILINE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-METHYLPHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 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 | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| ACENAPHTHYLENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| ANTHRACENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(A)ANTHRACENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(A)PYRENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(B)FLUORANTHENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(G,H,I)PERYLENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BENZO(K)FLUORANTHENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5.0 U | 5 U | 5 U | 3 J | 5.0 U | 5.0 U | 1.8 J |
| BUTYLBENZYL PHTHALATE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| CHRYSENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 1.2 J | 5 U |
| DI-N-OCTYL PHTHALATE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIBENZOFURAN | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIETHYL PHTHALATE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| DIMETHYL PHTHALATE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| FLUORANTHENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| FLUORENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROBENZENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROBUTADIENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| HEXACHLOROETHANE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW1030001-D | 9GW1040001 | 9GW1050001 | 9GW1060001 | 9GW1070001 | 9GW1080001 | 9GWC140001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW103 | 9GW104 | 9GW105 | 9GW106 | 9GW107 | 9GW108 | C14 |
| SAMPLE DATE: | 02/22/99 | 02/23/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/21/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | 9GW1030001 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| N-NITROSODIPHENYLAMINE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| NAPHTHALENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| NITROBENZENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| PHENOL | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| PYRENE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1-DICHLOROETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,1-DICHLOROETHENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2 DICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1.0 UR | 1 UR | 1 UR | 1 UR | 1.0 UR | 1.0 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2-DICHLOROETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,2-DICHLOROPROPANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,3 DICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 1,4 DICHLOROBENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| 2-BUTANONE | 5.0 UR | 5 UR | 5 UR | 5 UR | 5.0 UR | 5.0 UR | 5 UR |
| 2-HEXANONE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| 4-METHYL-2-PENTANONE | 5.0 U | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U |
| ACETONE | 1.6 B | 2.5 B | 5 UR | 5 UR | 2.1 B | 2.0 B | 2.8 B |
| BENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMOCHLOROMETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMODICHLOROMETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMOFORM | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| BROMOMETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CARBON DISULFIDE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CARBON TETRACHLORIDE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLOROBENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLORODIBROMOMETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLOROETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CHLOROFORM | 0.84 B | 1 U | 1.2 | 0.84 J | 1.0 U | 1.0 U | 1 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW1030001-D | 9GW1040001 | 9GW1050001 | 9GW1060001 | 9GW1070001 | 9GW1080001 | 9GWC140001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW103 | 9GW104 | 9GW105 | 9GW106 | 9GW107 | 9GW108 | C14 |
| SAMPLE DATE: | 02/22/99 | 02/23/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/21/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | 9GW1030001 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 0.21 J | 1.3 | 4.9 | 1 U | 1.0 U | 0.33 J | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| ETHYLBENZENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| METHYLENE CHLORIDE | 2.0 U | 2 U | 2 U | 0.28 B | 0.28 B | 2.0 U | 2 U |
| STYRENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TETRACHLOROETHENE | 0.86 J | 1 U | 0.2 J | 1 U | 1.0 U | 0.97 J | 1 U |
| TOLUENE | 1.0 U | 1 U | 0.47 J | 0.17 J | 1.0 U | 1.0 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| TRICHLOROETHENE | 2.9 | 1.8 J | 25 J | 1 U | 1.0 U | 1.4 | 1 U |
| VINYL CHLORIDE | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| XYLENES, TOTAL | 1.0 U | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.1 U | 2.1 U | 2.0 U | 2.0 UJ | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 UJ | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 UJ | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GW1030001-D | 9GW1040001 | 9GW1050001 | 9GW1060001 | 9GW1070001 | 9GW1080001 | 9GWC140001 |
|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW103 | 9GW104 | 9GW105 | 9GW106 | 9GW107 | 9GW108 | C14 |
| SAMPLE DATE: | 02/22/99 | 02/23/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/21/99 | 02/18/99 |
| ASSOCIATED DUPLICATE: | 9GW1030001 | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.052 U | 0.052 U | 0.050 U | 0.050 UJ | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.52 U | 0.52 U | 0.50 U | 0.50 UJ | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.2 U | 5.2 U | 5.0 U | 5.0 UJ | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.47 |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 1.4 | 0.50 U | 0.79 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 2.8 | 0.50 U | 4.2 | 2.8 | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | | | | | |
| AMMONIUM PERCHLORATE | 11.5 K | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GWC50001 | 9GWC60001 | 9GWBLD3670001 |
|---|---|---|---|
| LOCATION: | C5 | C6 | BLD367 |
| SAMPLE DATE: | 02/17/99 | 02/17/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | |
| ALUMINUM | 411 | 56.8 B | 12.7 U |
| ANTIMONY | 1.9 U | 1.9 U | 1.9 U |
| ARSENIC | 1.5 U | 1.5 U | 1.5 U |
| BARIUM | 39.5 | 31.1 | 72.2 J |
| BERYLLIUM | 0.10 U | 0.10 U | 0.10 UL |
| CADMIUM | 2.7 UL | 2.7 UL | 2.7 UL |
| CALCIUM | 3320 | 2350 | 9190 J |
| CHROMIUM | 5.5 B | 5.1 B | 2.3 U |
| COBALT | 5.0 B | 16.2 B | 3.3 U |
| COPPER | 3.1 | 7.3 | 2.4 U |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U |
| IRON | 836 | 102 B | 4710 J |
| LEAD | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 3430 | 3170 | 7310 |
| MANGANESE | 167 | 32.8 | 116 |
| MERCURY | 0.20 UL | 0.27 L | 0.20 U |
| NICKEL | 13.6 | 7.5 U | 7.5 U |
| POTASSIUM | 2190 B | 1460 B | 4350 |
| SELENIUM | 2.5 U | 2.5 U | 2.5 U |
| SILVER | 2.8 U | 3.6 B | 2.8 U |
| SODIUM | 8280 | 18600 | 4730 |
| THALLIUM | 2.9 U | 2.9 U | 2.9 U |
| VANADIUM | 2.8 | 2.1 U | 2.1 U |
| ZINC | 13.0 | 16.0 | 627 J |
| **SEMIVOLATILES (ug/L)** | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U | 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 U | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GWC50001 | 9GWC60001 | 9GWBLD3670001 |
|---|---|---|---|
| LOCATION: | C5 | C6 | BLD367 |
| SAMPLE DATE: | 02/17/99 | 02/17/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U | 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 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U | 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 |
| 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 |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U | 5 U |
| DIETHYL PHTHALATE | 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 U | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | [illegible] U | 5 U | 5 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GWC50001 | 9GWC60001 | 9GWBLD3670001 |
|---|---|---|---|
| LOCATION: | C5 | C6 | BLD367 |
| SAMPLE DATE: | 02/17/99 | 02/17/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 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 |
| NAPHTHALENE | 5 U | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U | 5 U |
| PHENOL | 5 U | 5 U | 5 U |
| PYRENE | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 3 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 3.3 | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 3 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 3 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 3 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 3 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 3 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 3 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 3 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 3 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 3 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 3 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 3 U | 1 U |
| 2-BUTANONE | 5 UR | 15 UR | 5 UR |
| 2-HEXANONE | 5 U | 15 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 15 U | 5 U |
| ACETONE | 5 UR | 15 UR | 5 UR |
| BENZENE | 1 U | 3 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 3 U | 1 U |
| BROMODICHLOROMETHANE | 0.32 J | 3 U | 1 U |
| BROMOFORM | 1 U | 3 U | 1 U |
| BROMOMETHANE | 1 U | 3 U | 1 U |
| CARBON DISULFIDE | 1 U | 3 U | 1 U |
| CARBON TETRACHLORIDE | 0.49 J | 3 U | 1 U |
| CHLOROBENZENE | 1 U | 3 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 3 U | 1 U |
| CHLOROETHANE | 1 U | 3 U | 1 U |
| CHLOROFORM | 4.8 | 5.2 | 1 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GWC50001 | 9GWC60001 | 9GWBLD3670001 |
|---|---|---|---|
| LOCATION: | C5 | C6 | BLD367 |
| SAMPLE DATE: | 02/17/99 | 02/17/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 3 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 3.7 | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 3 U | 1 U |
| ETHYLBENZENE | 1 U | 3 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 6 U | 2 U |
| STYRENE | 1 U | 3 U | 1 U |
| TETRACHLOROETHENE | 1 U | 3 U | 1 U |
| TOLUENE | 1 U | 3 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 3 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 3 U | 1 U |
| TRICHLOROETHENE | 1.2 | 45 | 1 U |
| VINYL CHLORIDE | 1 U | 3 U | 1 U |
| XYLENES, TOTAL | 1 U | 3 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | |
| 4,4'-DDD | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.052 U |
| ALPHA-BHC | 0.050 U | 0.050 U | 0.052 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U | 0.052 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.1 U |
| AROCLOR-1232 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U | 0.052 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.052 U |
| DIELDRIN | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.052 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.052 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U | 0.052 U |

TABLE N-2

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER



| SAMPLE I.D.: | 9GWC50001 | 9GWC60001 | 9GWBLD3670001 |
|---|---|---|---|
| LOCATION: | C5 | C6 | BLD367 |
| SAMPLE DATE: | 02/17/99 | 02/17/99 | 02/24/99 |
| ASSOCIATED DUPLICATE: | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 U | 0.050 U | 0.052 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U | 0.052 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.52 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.2 U |
| **EXPLOSIVES (ug/L)** | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U |
| HMX | 2.2 | 0.57 | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U |
| RDX | 6.5 | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (ug/L)** | | | |
| AMMONIUM PERCHLORATE | 71 K | 5 U | 5 U |

TABLE N-3

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 9GW030001-F | 9GW050001-F | 9GW580001-F | 9GW060001-F | 9GW070001-F | 9GW440001-F | 9GW550001-F | 9GW57S0001-F |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW03 | 9GW05 | 9GW05B | 9GW06 | 9GW07 | 9PZ44 | 9PZ55 | 9GW57S |
| SAMPLE DATE: | 02/24/99 | 02/21/99 | 02/21/99 | 02/23/99 | 02/23/99 | 02/22/99 | 02/24/99 | 02/22/99 |
| ASSOCIATED DUPLICATE: | | | | | | | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM, FILTERED | 50.4 B | 102 B | 30.5 B | 60.6 B | 12.8 B | 37.6 | 23.1 B | 12.7 U |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 3.5 | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 44.6 J | 82.1 | 37.5 | 89.7 J | 52.6 J | 42.9 | 20.1 J | 13.2 |
| BERYLLIUM, FILTERED | 0.1 UL | 0.2 B | 0.1 U | 0.1 UL | 0.1 UL | 0.17 B | 0.1 UL | 0.1 B |
| CADMIUM, FILTERED | 2.7 UL | 2.7 UJ | 2.7 UJ | 2.7 UL | 2.7 UL | 3.2 L | 2.7 UL | 2.7 UJ |
| CALCIUM, FILTERED | 2230 J | 3290 | 2980 | 3630 J | 5060 J | 5150 | 1440 J | 3500 |
| CHROMIUM, FILTERED | 3.6 | 2.3 U | 2.3 U | 2.3 U | 4.3 | 23.2 | 2.3 U | 2.3 U |
| COBALT, FILTERED | 33.3 | 7.9 | 3.3 U | 3.3 U | 24.6 | 12.6 | 3.3 U | 4.3 |
| COPPER, FILTERED | 2.9 B | 2.4 U | 2.4 U | 2.4 U | 2.6 B | 11.7 | 2.4 U | 2.4 U |
| IRON, FILTERED | 77 B | 125 | 10.3 B | 45.4 B | 179 B | 98 | 32.1 B | 11.1 B |
| LEAD, FILTERED | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| MAGNESIUM, FILTERED | 3140 | 6120 | 5310 | 6180 | 5820 | 4490 | 2070 | 4560 |
| MANGANESE, FILTERED | 59.8 | 147 | 47.7 | 98.1 | 27.8 | 402 | 9.9 | 3.4 B |
| MERCURY, FILTERED | 0.2 U | 0.2 U | 3.4 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 17.1 | 7.5 U | 7.5 U | 7.8 | 30 | 29.3 B | 5.5 U | 7.5 U |
| POTASSIUM, FILTERED | 1500 | 2320 B | 1390 | 2620 | 1830 | 3430 | 1500 | 412 U |
| SELENIUM, FILTERED | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER, FILTERED | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 23900 | 28100 | 23100 | 27000 | 18400 | 49600 | 7770 | 7290 |
| THALLIUM, FILTERED | 4.2 B | 5.2 B | 7 B | 3 B | 3.8 B | 4.3 B | 3.9 B | 3.2 B |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 6.6 J | 9.5 B | 2.7 B | 3.5 J | 4.4 J | 49.6 | 1.8 UJ | 1.8 U |

TABLE N-3

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 9GW740001-F | 9GW830001-F | 9GW1000001-F | 9GW1020001-F | 9GW1020001-F-D | 9GW1040001-F | 9GW1060001-F |
|---|---|---|---|---|---|---|---|
| LOCATION: | 9GW74 | 9GW83 | 9GW100 | 9GW102 | 9GW102 | 9GW104 | 9GW106 |
| SAMPLE DATE: | 02/24/99 | 02/23/99 | 02/19/99 | 02/23/99 | 02/23/99 | 02/23/99 | 02/23/99 |
| ASSOCIATED DUPLICATE: | | | | 9GW1020001-F-D | 9GW1020001-F | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | | | | | | |
| ALUMINUM, FILTERED | 25.4 B | 12.7 U | 59.1 B | 31 B | 88.8 B | 12.7 U | 17.5 B |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U | 2.3 B | 1.9 U | 2 | 1.9 U | 1.3 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 43 J | 23.5 J | 46.5 | 33.2 J | 32.7 J | 87.9 | 10.7 J |
| BERYLLIUM, FILTERED | 0.1 UL | 0.1 UL | 0.1 U | 0.1 UL | 0.1 UL | 0.1 UL | 0.1 UL |
| CADMIUM, FILTERED | 2.7 UL | 3.6 UL | 2.7 U | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL |
| CALCIUM, FILTERED | 6270 J | 10200 J | 9910 | 1780 J | 1720 J | 12100 | 1020 J |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U | 2.3 U | 3.0 | 2.5 | 2.3 U | 2.3 U |
| COBALT, FILTERED | 3.3 U | 3.3 U | 3.3 U | 77.8 | 74.4 | 3.3 U | 27.4 |
| COPPER, FILTERED | 2.4 U | 2.4 U | 2.4 U | 4 B | 5.1 B | 2.4 U | 2.4 B |
| IRON, FILTERED | 42.3 B | 58.5 B | 25.7 B | 114 B | 67.9 B | 591 | 870 J |
| LEAD, FILTERED | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| MAGNESIUM, FILTERED | 4640 | 6840 | 5240 | 2480 | 2410 | 6530 | 1030 |
| MANGANESE, FILTERED | 41.8 | 494 | 800 | 284 | 263 | 874 | 70.6 |
| MERCURY, FILTERED | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| NICKEL, FILTERED | 10 | 7.5 U | 7.5 U | 23 | 24.5 | 8.1 | 19.8 |
| POTASSIUM, FILTERED | 2660 | 4160 | 3120 | 2490 | 2480 | 4850 | 1090 |
| SELENIUM, FILTERED | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| SILVER, FILTERED | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 8840 | 11200 | 9560 | 4470 | 4340 | 10700 | 3520 |
| THALLIUM, FILTERED | 2.9 U | 3.9 B | 2.9 U | 4.2 B | 5.4 B | 6.1 B | 3.3 B |
| VANADIUM, FILTERED | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| ZINC, FILTERED | 43.7 J | 2.1 J | 6.3 B | 91 J | 77.1 J | 7.3 L | 18.5 J |

TABLE N-3

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FILTERED GROUNDWATER SAMPLES



| SAMPLE I.D.: | 9GWC140001-F | 9GWC50001-F |
|---|---|---|
| LOCATION: | C14 | C5 |
| SAMPLE DATE: | 02/18/99 | 02/17/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **DISSOLVED INORGANICS (ug/L)** | | |
| ALUMINUM, FILTERED | 38.7 B | 42.2 B |
| ANTIMONY, FILTERED | 1.9 U | 1.9 U |
| ARSENIC, FILTERED | 1.5 U | 1.5 U |
| BARIUM, FILTERED | 82.5 | 34.4 |
| BERYLLIUM, FILTERED | 0.1 U | 0.1 U |
| CADMIUM, FILTERED | 2.7 UL | 2.7 UL |
| CALCIUM, FILTERED | 9160 | 3190 |
| CHROMIUM, FILTERED | 2.3 U | 2.3 U |
| COBALT, FILTERED | 3.3 U | 3.3 U |
| COPPER, FILTERED | 2.4 U | 2.4 U |
| IRON, FILTERED | 695 | 27.6 B |
| LEAD, FILTERED | 1 U | 1 U |
| MAGNESIUM, FILTERED | 4020 | 3290 |
| MANGANESE, FILTERED | 42.4 | 149 |
| MERCURY, FILTERED | 0.2 UL | 0.2 UL |
| NICKEL, FILTERED | 7.5 U | 7.5 U |
| POTASSIUM, FILTERED | 10700 | 1690 B |
| SELENIUM, FILTERED | 2.5 U | 2.5 U |
| SILVER, FILTERED | 2.8 U | 2.8 U |
| SODIUM, FILTERED | 13900 | 7670 |
| THALLIUM, FILTERED | 5.9 B | 4 B |
| VANADIUM, FILTERED | 2.1 U | 2.1 U |
| ZINC, FILTERED | 2.5 | 7.3 |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1000001 | 9SW1010001 | 9SW1020001 | 9SW1030001 | 9SW1040001 | 9SW1050001 | 9SW1050001-D | 9SW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SW1050001-D | 9SW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | | | |
| ALUMINUM | 270 B | 1500 | 76.3 B | 395 B | 79.6 B | 90.3 B | 59.4 B | 266 B |
| ANTIMONY | 2.8 U | 2.8 U | 2.8 U | 2.8 U | 3.4 B | 2.8 U | 2.8 U | 19.6 UL |
| ARSENIC | 2.6 U | 3.1 K | 3.2 K | 2.6 U | 2.6 U | 2.6 U | 2.6 U | 1.5 U |
| BARIUM | 17.6 | 52.8 B | 33.6 | 33.5 | 90.4 | 86.6 | 86.7 | 42.8 |
| BERYLLIUM | 0.06 U | 0.12 B | 0.06 U | 0.06 U | 0.06 U | 0.14 B | 0.06 B | 0.10 U |
| CADMIUM | 0.20 U | 0.38 B | 0.21 B | 0.20 U | 0.20 U | 0.24 B | 0.28 B | 2.7 U |
| CALCIUM | 8750 | 13700 | 10800 | 12000 | 48000 | 46200 | 46200 | 30700 |
| CHROMIUM | 0.90 U | 2.6 | 0.90 U | 0.90 U | 0.90 U | 0.90 U | 0.90 U | 2.3 U |
| COBALT | 0.60 U | 3.6 | 0.60 U | 0.60 U | 0.60 U | 0.60 U | 0.93 | 3.3 U |
| COPPER | 6.2 B | 20.6 K | 1.3 B | 4.2 B | 2.1 B | 1.7 B | 81.2 | 7.6 B |
| CYANIDE | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 B | 2.7 U | 5.2 |
| IRON | 280 B | 2800 | 139 B | 660 | 330 B | 293 B | 233 B | 663 J |
| LEAD | 4.2 L | 14.5 | 1.5 UL | 1.5 UL | 1.5 UL | 1.5 UL | 1.5 UL | 2.1 |
| MAGNESIUM | 1090 | 3270 | 3680 | 3770 | 17800 | 17100 | 17100 | 9910 |
| MANGANESE | 130 | 376 | 9.7 K | 30.1 | 185 | 196 | 196 | 157 |
| MERCURY | 0.10 | 0.91 | 0.37 | 0.25 | 0.10 U | 0.10 U | 0.10 U | 0.20 U |
| NICKEL | 1.2 U | 12.2 | 1.2 U | 1.2 U | 3.5 | 2.6 | 3.3 | 7.5 UL |
| POTASSIUM | 1530 | 1750 | 1390 | 1390 | 10200 | 10000 | 10200 | 6430 |
| SELENIUM | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 3.0 B | 2.5 UL |
| SILVER | 0.70 U | 0.70 U | 0.70 U | 0.70 U | 0.70 U | 0.70 U | 0.70 U | 2.8 U |
| SODIUM | 2240 | 10400 | 11600 | 11600 | 275000 | 274000 | 277000 | 145000 |
| THALLIUM | 5.6 U | 5.6 U | 5.6 U | 5.6 U | 5.6 U | 5.6 U | 5.6 U | 2.9 U |
| VANADIUM | 2.3 B | 5.9 | 0.60 U | 1.1 B | 0.60 U | 0.60 U | 0.60 U | 2.1 B |
| ZINC | 23.6 B | 105 J | 14.1 B | 19.7 B | 27.7 B | 65.9 J | 24.6 B | 47.1 |
| **SEMIVOLATILES (ug/L)** | | | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U | 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 | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 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 | 5 U |
| 2,4-DINITROPHENOL | 20 U | 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 | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 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 | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 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 | 5 U |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1000001 | 9SW1010001 | 9SW1020001 | 9SW1030001 | 9SW1040001 | 9SW1050001 | 9SW1050001-D | 9SW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SW1050001-D | 9SW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 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 | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 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 | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 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 | 5 U |
| 4-NITROANILINE | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| 4-NITROPHENOL | 1.6 J | 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 | 5 U |
| ACENAPHTHYLENE | 5 U | 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 | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 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 | 5 U |
| BENZO(B)FLUORANTHENE | 5 U | 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 | 5 U |
| BENZO(K)FLUORANTHENE | 5 U | 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 | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 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 | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 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 | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 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 | 5 U |
| DIETHYL PHTHALATE | 5 U | 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 | 5 U |
| FLUORANTHENE | 5 U | 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 | 5 U |
| HEXACHLOROBENZENE | 5 U | 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 | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 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 | 5 U |
| I[illegible]O(1,2,3-CD)PYRENE | 5 U | 5 U | [illegible] | 5 U | 5 U | 5 U | 5 U | [illegible] |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1000001 | 9SW1010001 | 9SW1020001 | 9SW1030001 | 9SW1040001 | 9SW1050001 | 9SW1050001-D | 9SW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SW1050001-D | 9SW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 5 U | 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 | 5 U |
| N-NITROSODIPHENYLAMINE | 5 U | 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 | 5 U |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 5 U | 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 | 5 U |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 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 |
| 1,1-DICHLOROETHENE | 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 |
| 1,2,4 TRICHLOROBENZENE | 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 UR |
| 1,2-DIBROMOETHANE | 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 |
| 1,2-DICHLOROPROPANE | 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 |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 0.21 B | 0.22 B | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 U |
| 2-HEXANONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACETONE | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5.1 J |
| BENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 0.12 J | 0.13 J | 1 U |
| BROMOCHLOROMETHANE | 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 |
| BROMOFORM | 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 |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 0.17 J | 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 |
| CHLORODIBROMOMETHANE | 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 |
| CHLOROFORM | 1 U | 0.17 B | 0.64 B | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1000001 | 9SW1010001 | 9SW1020001 | 9SW1030001 | 9SW1040001 | 9SW1050001 | 9SW1050001-D | 9SW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SW1050001-D | 9SW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 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 |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 0.73 B | 0.5 B | 0.94 B | 0.48 B | 1.4 B | 8.2 B | 7.8 B | 2 U |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U | 0.13 J | 1 U | 1 U | 1 U | 0.12 J | 1 U |
| TOLUENE | 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 |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 1 U | 1 U | 0.25 B | 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 |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | | | |
| 4,4'-DDD | 0.0031 B | 0.0041 B | 0.0019 B | 0.0028 B | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.0024 B | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.0011 J | 0.0035 J | 0.10 U | 0.006 J | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U | 0.0044 B | 0.0026 B | 0.0018 B | 0.050 U | 0.0018 B | 0.050 U |
| ALPHA-BHC | 0.0016 J | 0.0081 J | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.018 J | 0.0041 J | 0.0087 J | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 0.62 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 0.14 J | 1.0 U | 1.0 U | 0.37 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.0091 J | 0.00860 J | 0.050 U | 0.00099 J | 0.050 U | 0.0025 J | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| DIELDRIN | 0.00440 B | 0.10 U | 0.10 U | 0.0014 B | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.0018 J | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U | 0.050 U | 0.00079 J | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| G[illegible]-CHLORDANE | 0.0083 J | 0.0043 J | 0.0[illegible] | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0[illegible] |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1000001 | 9SW1010001 | 9SW1020001 | 9SW1030001 | 9SW1040001 | 9SW1050001 | 9SW1050001-D | 9SW1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SW1050001-D | 9SW1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.0027 R | 0.0063 R | 0.0058 R | 0.002 R | 0.0029 R | 0.0021 R | 0.0025 R | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.0011 B | 0.050 U | 0.0018 B | 0.0033 J | 0.050 U | 0.050 U | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U | 1.1 | 0.74 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | | | | | | | |
| TOTAL DISSOLVED SOLIDS | 61 | 97 | 110 | 110 | 1000 | 1100 | 1100 | 550 |
| TOTAL SUSPENDED SOLIDS | 8 | 54 | 4 U | 15 | 4 U | 4 U | 4 U | 25 |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1070001 | 9SW1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | |
| ALUMINUM | 3180 | 397 |
| ANTIMONY | 19.6 UL | 19.6 UL |
| ARSENIC | 2.7 B | 1.5 U |
| BARIUM | 68.8 | 44.4 |
| BERYLLIUM | 0.10 U | 0.10 U |
| CADMIUM | 2.7 U | 2.7 U |
| CALCIUM | 50200 | 31700 |
| CHROMIUM | 10.6 B | 2.8 B |
| COBALT | 3.6 | 3.3 U |
| COPPER | 12.5 B | 7.0 B |
| CYANIDE | 6.0 | 3.8 |
| IRON | 5360 J | 837 J |
| LEAD | 7.9 | 2.6 |
| MAGNESIUM | 15100 | 10300 |
| MANGANESE | 322 | 164 |
| MERCURY | 0.26 | 0.20 U |
| NICKEL | 23.6 L | 7.5 UL |
| POTASSIUM | 8160 | 7030 |
| SELENIUM | 2.5 UL | 2.5 UL |
| SILVER | 3.0 B | 2.8 U |
| SODIUM | 177000 | 150000 |
| THALLIUM | 2.9 U | 2.9 U |
| VANADIUM | 10.9 B | 2.7 B |
| ZINC | 72.9 | 51.1 |
| **SEMIVOLATILES (ug/L)** | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U |
| 2-CHLOROPHENOL | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1070001 | 9SW1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| 2-NITROANILINE | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 20 U |
| 4,6-DINITRO-2-METHYLPHENOL | 20 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U |
| ACENAPHTHENE | 5 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5 U |
| ANTHRACENE | 5 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5 U |
| BENZO(B)FLUORANTHENE | 5 U | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 5 U |
| BENZO(K)FLUORANTHENE | 5 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 2.4 J | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5 U |
| FLUORANTHENE | 5 U | 5 U |
| FLUORENE | 5 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 5 U |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1070001 | 9SW1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| ISOPHORONE | 5 U | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 U |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U |
| PHENOL | 5 U | 5 U |
| PYRENE | 5 U | 5 U |
| **VOLATILES (ug/L)** | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U |
| 2-BUTANONE | 5 U | 5 U |
| 2-HEXANONE | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U |
| ACETONE | 4.7 J | 4.5 J |
| BENZENE | 1 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U |
| BROMOFORM | 1 U | 1 U |
| BROMOMETHANE | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U |
| CHLOROBENZENE | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U |
| CHLOROETHANE | 1 U | 1 U |
| CHLOROFORM | 1 U | 1 U |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1070001 | 9SW1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| CHLOROMETHANE | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U |
| ETHYLBENZENE | 1 U | 1 U |
| METHYLENE CHLORIDE | 0.66 J | 2 U |
| STYRENE | 1 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U |
| TOLUENE | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U |
| TRICHLOROETHENE | 1 U | 1 U |
| VINYL CHLORIDE | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | |
| 4,4'-DDD | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U |
| ALDRIN | 0.050 U | 0.050 U |
| ALPHA-BHC | 0.050 U | 0.050 U |
| ALPHA-CHLORDANE | 0.050 U | 0.050 U |
| AROCLOR-1016 | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.0 U |
| AROCLOR-1232 | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U |
| BETA-BHC | 0.050 U | 0.050 U |
| DELTA-BHC | 0.050 U | 0.050 U |
| DIELDRIN | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.050 U | 0.050 U |
| ENDOSULFAN II | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.050 U | 0.050 U |
| GAMMA-CHLORDANE | 0.050 U | 0.050 U |

TABLE N-4

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | 9SW1070001 | 9SW1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| HEPTACHLOR | 0.050 U | 0.050 U |
| HEPTACHLOR EPOXIDE | 0.050 U | 0.050 U |
| METHOXYCHLOR | 0.50 U | 0.50 U |
| TOXAPHENE | 5.0 U | 5.0 U |
| **EXPLOSIVES (ug/L)** | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U |
| HMX | 0.50 U | 0.50 U |
| NITROBENZENE | 0.20 U | 0.20 U |
| RDX | 0.50 U | 0.50 U |
| TETRYL | 0.20 U | 0.20 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | |
| TOTAL DISSOLVED SOLIDS | 600 | 500 |
| TOTAL SUSPENDED SOLIDS | 85 | 28 |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1000001 | 9SD1010001 | 9SD1020001 | 9SD1030001 | 9SD1040001 | 9SD1050001 | 9SD1050001-D | 9SD1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SD1050001-D | 9SD1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | | | |
| ALUMINUM | 1550 J | 1030 J | 623 J | 1220 J | 1370 J | 520 J | 875 J | 1590 |
| ANTIMONY | 0.95 B | 0.66 U | 0.75 U | 0.75 U | 0.66 U | 0.71 U | 1.0 B | 0.68 UL |
| ARSENIC | 3.0 K | 1.5 K | 0.70 U | 0.77 K | 1.1 K | 0.66 U | 9.8 | 0.68 |
| BARIUM | 37.0 | 6.6 | 3.7 | 7.9 | 30.7 | 9.8 | 13.7 | 14.0 |
| BERYLLIUM | 0.09 B | 0.01 U | 0.02 U | 0.02 U | 0.09 B | 0.08 B | 0.07 B | 0.01 U |
| CADMIUM | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| CALCIUM | 7360 | 814 | 148 B | 353 B | 197 B | 162 B | 185 B | 511 |
| CHROMIUM | 41.9 | 13.3 | 5.9 | 5.1 | 4.5 | 6.9 | 12.9 | 4.9 J |
| COBALT | 3.0 | 1.5 | 0.81 | 1.4 | 8.1 | 1.8 | 2.6 K | 3.4 |
| COPPER | 59.8 | 7.5 B | 2.3 B | 5.5 B | 4.7 B | 4.9 B | 23.2 | 8.2 K |
| CYANIDE | 3.2 U | 2.9 U | 3.4 U | 3.3 U | 2.9 U | 3.2 U | 3.2 U | 3.0 U |
| IRON | 15300 J | 3190 J | 1560 J | 2480 J | 6350 J | 2720 J | 18800 J | 4460 |
| LEAD | 134 J | 40.6 J | 3.2 J | 5.6 J | 5.5 J | 4.1 J | 2.1 J | 2.7 L |
| MAGNESIUM | 2690 | 1660 | 687 | 983 | 466 | 167 | 334 | 864 |
| MANGANESE | 101 | 35.3 | 32.6 | 57.7 | 515 | 271 | 309 | 272 J |
| MERCURY | 0.06 U | 0.25 | 1.2 | 0.45 | 0.06 U | 0.06 U | 0.06 U | 0.06 U |
| NICKEL | 21.4 | 16.5 | 5.4 | 6.8 | 11.2 | 4.0 | 12.1 | 9.9 |
| POTASSIUM | 167 | 119 | 54.1 B | 277 | 240 | 100 | 126 | 298 |
| SELENIUM | 0.72 L | 1.3 L | 0.75 UL | 0.75 UL | 0.65 UL | 0.71 UL | 1.2 L | 0.68 UL |
| SILVER | 0.18 U | 0.16 U | 0.19 U | 0.19 U | 0.16 U | 0.18 U | 0.18 U | 0.46 U |
| SODIUM | 65.7 B | 54.8 B | 45.0 B | 59.4 B | 120 B | 158 B | 165 B | 110 B |
| THALLIUM | 1.4 U | 1.3 U | 1.5 U | 1.5 U | 1.3 U | 1.4 U | 1.4 U | 1.4 UL |
| VANADIUM | 12.9 | 5.9 | 3.0 | 4.3 | 5.0 | 5.7 | 5.5 | 5.3 |
| ZINC | 84.4 | 36.9 | 15.4 B | 22.4 | 46.8 | 13.5 B | 22.8 | 21.5 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 1,2-DICHLOROBENZENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 1,3-DICHLOROBENZENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 1,4-DICHLOROBENZENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 UR | 420 U | 400 UJ |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 2,4,5-TRICHLOROPHENOL | 1000 UR | 940 UR | 1100 UR | 1100 UR | 940 UR | 1000 UR | 1000 UR | 970 UJ |
| 2,4,6-TRICHLOROPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 2,4-DICHLOROPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 2,4-DIMETHYLPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 2,4-DINITROPHENOL | 1000 UR | 940 UR | 1100 UR | 1100 UR | 940 UR | 1000 UR | 1000 UR | 970 UJ |
| 2,4-DINITROTOLUENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 2,6-DINITROTOLUENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 2-CHLORONAPHTHALENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1000001 | 9SD1010001 | 9SD1020001 | 9SD1030001 | 9SD1040001 | 9SD1050001 | 9SD1050001-D | 9SD1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SD1050001-D | 9SD1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 2-METHYLNAPHTHALENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 2-METHYLPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 2-NITROANILINE | 1000 U | 940 U | 1100 U | 1100 U | 940 U | 1000 U | 1000 U | 970 UJ |
| 2-NITROPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 3,3'-DICHLOROBENZIDINE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 3-NITROANILINE | 1000 U | 940 U | 1100 U | 1100 U | 940 U | 1000 U | 1000 U | 970 UJ |
| 4,6-DINITRO-2-METHYLPHENOL | 1000 UR | 940 UR | 1100 UR | 1100 UR | 940 UR | 1000 UR | 1000 UR | 970 UJ |
| 4-BROMOPHENYL PHENYL ETHER | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 4-CHLORO-3-METHYLPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 4-CHLOROANILINE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 4-CHLOROPHENYL PHENYL ETHER | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| 4-METHYLPHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| 4-NITROANILINE | 1000 U | 940 U | 1100 U | 1100 U | 940 U | 1000 U | 1000 U | 970 UJ |
| 4-NITROPHENOL | 1000 UR | 940 UR | 1100 UR | 1100 UR | 940 UR | 1000 UR | 1000 UR | 970 UJ |
| ACENAPHTHENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| ACENAPHTHYLENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| ANTHRACENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BENZO(A)ANTHRACENE | 150 J | 56 J | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BENZO(A)PYRENE | 100 J | 51 J | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BENZO(B)FLUORANTHENE | 190 J | 390 U | 75 J | 60 J | 380 U | 420 U | 420 U | 400 UJ |
| BENZO(G,H,I)PERYLENE | 46 J | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BENZO(K)FLUORANTHENE | 53 J | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BIS(2-CHLOROETHOXY)METHANE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BIS(2-CHLOROETHYL)ETHER | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BIS(2-ETHYLHEXYL)PHTHALATE | 420 U | 89 J | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| BUTYLBENZYL PHTHALATE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| CARBAZOLE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| CHRYSENE | 200 J | 85 J | 91 J | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| DI-N-BUTYL PHTHALATE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| DI-N-OCTYL PHTHALATE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| DIBENZO(A,H)ANTHRACENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| DIBENZOFURAN | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| DIETHYL PHTHALATE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| DIMETHYL PHTHALATE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| FLUORANTHENE | 430 | 120 J | 170 J | 110 J | 380 U | 420 U | 420 U | 400 UJ |
| FLUORENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| HEXACHLOROBENZENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| HEX[illegible]OROBUTADIENE | 420 U | 390 U | [illegible] | 440 U | 380 U | 420 U | 420 U | [illegible]UJ |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1000001 | 9SD1010001 | 9SD1020001 | 9SD1030001 | 9SD1040001 | 9SD1050001 | 9SD1050001-D | 9SD1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SD1050001-D | 9SD1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| HEXACHLOROETHANE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| INDENO(1,2,3-CD)PYRENE | 62 J | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| ISOPHORONE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| N-NITROSO-DI-N-PROPYLAMINE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| N-NITROSODIPHENYLAMINE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| NAPHTHALENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| NITROBENZENE | 420 U | 390 U | 440 U | 440 U | 380 U | 420 U | 420 U | 400 UJ |
| PENTACHLOROPHENOL | 1000 UR | 940 UR | 1100 UR | 1100 UR | 940 UR | 1000 UR | 1000 UR | 970 UJ |
| PHENANTHRENE | 170 J | 64 J | 440 U | 45 J | 380 U | 420 U | 420 U | 400 UJ |
| PHENOL | 420 UR | 390 UR | 440 UR | 440 UR | 380 UR | 420 UR | 420 UR | 400 UJ |
| PYRENE | 200 J | 69 J | 88 J | 71 J | 380 U | 420 U | 420 U | 400 UJ |
| **VOLATILES (ug/kg)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,1,2,2-TETRACHLOROETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,1,2-TRICHLOROETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,1-DICHLOROETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,1-DICHLOROETHENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,2-DICHLOROETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,2-DICHLOROETHENE (TOTAL) | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 1,2-DICHLOROPROPANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 2-BUTANONE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 2-HEXANONE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| 4-METHYL-2-PENTANONE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| ACETONE | 13 UJ | 12 UJ | 14 UJ | 13 UJ | 12 UJ | 13 UJ | 13 UJ | 12 U |
| BENZENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| BROMODICHLOROMETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| BROMOFORM | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| BROMOMETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 1 B | 13 U | 1 B |
| CARBON DISULFIDE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| CARBON TETRACHLORIDE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| CHLOROBENZENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| CHLORODIBROMOMETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| CHLOROETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| CHLOROFORM | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 1 J |
| CHLOROMETHANE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| CIS-1,3-DICHLOROPROPENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| ETHYLBENZENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| METHYLENE CHLORIDE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1000001 | 9SD1010001 | 9SD1020001 | 9SD1030001 | 9SD1040001 | 9SD1050001 | 9SD1050001-D | 9SD1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SD1050001-D | 9SD1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| TETRACHLOROETHENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| TOLUENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| TRANS-1,3-DICHLOROPROPENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| TRICHLOROETHENE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| VINYL CHLORIDE | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| XYLENES, TOTAL | 13 U | 12 U | 14 U | 13 U | 12 U | 13 U | 13 U | 12 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | | | |
| 4,4'-DDD | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 4.0 UJ |
| 4,4'-DDE | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 1.6 R |
| 4,4'-DDT | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 0.76 R |
| ALDRIN | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| ALPHA-BHC | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 0.16 R |
| ALPHA-CHLORDANE | 1.3 J | 11 J | 3.1 J | 1.6 L | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| AROCLOR-1016 | 42 U | 39 U | 44 U | 44 UL | 39 U | 42 UL | 42 U | 40 UJ |
| AROCLOR-1221 | 86 U | 78 U | 90 U | 89 UL | 78 U | 85 UL | 86 U | 80 UJ |
| AROCLOR-1232 | 42 U | 39 U | 44 U | 44 UL | 39 U | 42 UL | 42 U | 40 UJ |
| AROCLOR-1242 | 42 U | 39 U | 44 U | 44 UL | 39 U | 42 UL | 42 U | 40 UJ |
| AROCLOR-1248 | 42 U | 85 J | 120 J | 32 L | 39 U | 42 UL | 42 U | 40 UJ |
| AROCLOR-1254 | 42 U | 39 U | 44 U | 44 UL | 39 U | 42 UL | 110 J | 100 J |
| AROCLOR-1260 | 42 U | 60 J | 44 U | 44 UL | 39 U | 42 UL | 42 U | 40 UJ |
| BETA-BHC | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| DELTA-BHC | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| DIELDRIN | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 1.6 J |
| ENDOSULFAN I | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| ENDOSULFAN II | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 4.0 UJ |
| ENDOSULFAN SULFATE | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 2.3 J |
| ENDRIN | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 4.0 UJ |
| ENDRIN ALDEHYDE | 4.2 U | 2.1 J | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 4.0 UJ |
| ENDRIN KETONE | 4.2 U | 3.9 U | 4.4 U | 4.4 UL | 3.9 U | 4.2 UL | 4.2 U | 4.0 UJ |
| GAMMA-BHC (LINDANE) | 1.9 J | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| GAMMA-CHLORDANE | 2.2 U | 9.7 | 2.6 J | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 1.3 R |
| HEPTACHLOR | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 0.061 R |
| HEPTACHLOR EPOXIDE | 2.2 U | 2.0 U | 2.3 U | 2.3 UL | 2.0 U | 2.2 UL | 2.2 U | 2.0 UJ |
| METHOXYCHLOR | 22 U | 20 U | 23 U | 23 UL | 20 U | 22 UL | 22 U | 20 UJ |
| TOXAPHENE | 220 U | 200 U | 230 U | 230 UL | 200 U | 220 UL | 220 U | 200 UJ |
| **EXPLOSIVES (mg/kg)** | | | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 1,3-D[illegible]OBENZENE | 0.25 U | 0.25 U | 0.[illegible] | 0.25 U | 0.25 U | 0.25 U | 0.25 U | [illegible] |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1000001 | 9SD1010001 | 9SD1020001 | 9SD1030001 | 9SD1040001 | 9SD1050001 | 9SD1050001-D | 9SD1060001 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | 9SW/SD100 | 9SW/SD101 | 9SW/SD102 | 9SW/SD103 | 9SW/SD104 | 9SW/SD105 | 9SW/SD105 | 9SW/SD106 |
| SAMPLE DATE: | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/12/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | | | | | 9SD1050001-D | 9SD1050001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | | | | |
| TOTAL ORGANIC CARBON | 1900 | 380 | 130 U | 130 U | 120 U | 130 U | 130 U | 1100 |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1070001 | 9SD1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | |
| ALUMINUM | 2920 | 1190 |
| ANTIMONY | 0.63 UL | 0.64 UL |
| ARSENIC | 0.59 U | 0.59 U |
| BARIUM | 23.3 | 9.7 |
| BERYLLIUM | 0.19 B | 0.01 U |
| CADMIUM | 0.05 U | 0.05 U |
| CALCIUM | 204 | 182 |
| CHROMIUM | 7.4 J | 3.4 J |
| COBALT | 4.4 | 2.3 |
| COPPER | 8.5 K | 5.6 K |
| CYANIDE | 2.8 U | 2.9 U |
| IRON | 11500 | 2980 |
| LEAD | 1.4 L | 1.4 L |
| MAGNESIUM | 570 | 377 |
| MANGANESE | 465 J | 243 J |
| MERCURY | 0.06 U | 0.06 U |
| NICKEL | 14.0 | 4.8 |
| POTASSIUM | 421 | 247 |
| SELENIUM | 0.63 UL | 0.64 UL |
| SILVER | 0.43 U | 0.43 U |
| SODIUM | 111 B | 78.8 B |
| THALLIUM | 1.3 UL | 1.3 UL |
| VANADIUM | 5.1 | 3.5 |
| ZINC | 39.7 J | 16.9 J |
| **SEMIVOLATILES (ug/kg)** | | |
| 1,2,4-TRICHLOROBENZENE | 370 UJ | 380 UJ |
| 1,2-DICHLOROBENZENE | 370 UJ | 380 UJ |
| 1,3-DICHLOROBENZENE | 370 UJ | 380 UJ |
| 1,4-DICHLOROBENZENE | 370 UJ | 380 UJ |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 370 UJ | 380 UJ |
| 2,4,5-TRICHLOROPHENOL | 900 UJ | 910 UJ |
| 2,4,6-TRICHLOROPHENOL | 370 UJ | 380 UJ |
| 2,4-DICHLOROPHENOL | 370 UJ | 380 UJ |
| 2,4-DIMETHYLPHENOL | 370 UJ | 380 UJ |
| 2,4-DINITROPHENOL | 900 UJ | 910 UJ |
| 2,4-DINITROTOLUENE | 370 UJ | 380 UJ |
| 2,6-DINITROTOLUENE | 370 UJ | 380 UJ |
| 2-CHLORONAPHTHALENE | 370 UJ | 380 UJ |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1070001 | 9SD1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 370 UJ | 380 UJ |
| 2-METHYLNAPHTHALENE | 370 UJ | 380 UJ |
| 2-METHYLPHENOL | 370 UJ | 380 UJ |
| 2-NITROANILINE | 900 UJ | 910 UJ |
| 2-NITROPHENOL | 370 UJ | 380 UJ |
| 3,3'-DICHLOROBENZIDINE | 370 UJ | 380 UJ |
| 3-NITROANILINE | 900 UJ | 910 UJ |
| 4,6-DINITRO-2-METHYLPHENOL | 900 UJ | 910 UJ |
| 4-BROMOPHENYL PHENYL ETHER | 370 UJ | 380 UJ |
| 4-CHLORO-3-METHYLPHENOL | 370 UJ | 380 UJ |
| 4-CHLOROANILINE | 370 UJ | 380 UJ |
| 4-CHLOROPHENYL PHENYL ETHER | 370 UJ | 380 UJ |
| 4-METHYLPHENOL | 370 UJ | 380 UJ |
| 4-NITROANILINE | 900 UJ | 910 UJ |
| 4-NITROPHENOL | 900 UJ | 910 UJ |
| ACENAPHTHENE | 370 UJ | 380 UJ |
| ACENAPHTHYLENE | 370 UJ | 380 UJ |
| ANTHRACENE | 370 UJ | 380 UJ |
| BENZO(A)ANTHRACENE | 370 UJ | 380 UJ |
| BENZO(A)PYRENE | 370 UJ | 380 UJ |
| BENZO(B)FLUORANTHENE | 370 UJ | 380 UJ |
| BENZO(G,H,I)PERYLENE | 370 UJ | 380 UJ |
| BENZO(K)FLUORANTHENE | 370 UJ | 380 UJ |
| BIS(2-CHLOROETHOXY)METHANE | 370 UJ | 380 UJ |
| BIS(2-CHLOROETHYL)ETHER | 370 UJ | 380 UJ |
| BIS(2-ETHYLHEXYL)PHTHALATE | 370 UJ | 380 UJ |
| BUTYLBENZYL PHTHALATE | 370 UJ | 380 UJ |
| CARBAZOLE | 370 UJ | 380 UJ |
| CHRYSENE | 370 UJ | 380 UJ |
| DI-N-BUTYL PHTHALATE | 370 UJ | 380 UJ |
| DI-N-OCTYL PHTHALATE | 370 UJ | 380 UJ |
| DIBENZO(A,H)ANTHRACENE | 370 UJ | 380 UJ |
| DIBENZOFURAN | 370 UJ | 380 UJ |
| DIETHYL PHTHALATE | 370 UJ | 380 UJ |
| DIMETHYL PHTHALATE | 370 UJ | 380 UJ |
| FLUORANTHENE | 370 UJ | 380 UJ |
| FLUORENE | 370 UJ | 380 UJ |
| HEXACHLOROBENZENE | 370 UJ | 380 UJ |
| HEXACHLOROBUTADIENE | 370 UJ | 380 UJ |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1070001 | 9SD1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 370 UJ | 380 UJ |
| HEXACHLOROETHANE | 370 UJ | 380 UJ |
| INDENO(1,2,3-CD)PYRENE | 370 UJ | 380 UJ |
| ISOPHORONE | 370 UJ | 380 UJ |
| N-NITROSO-DI-N-PROPYLAMINE | 370 UJ | 380 UJ |
| N-NITROSODIPHENYLAMINE | 370 UJ | 380 UJ |
| NAPHTHALENE | 370 UJ | 380 UJ |
| NITROBENZENE | 370 UJ | 380 UJ |
| PENTACHLOROPHENOL | 900 UJ | 910 UJ |
| PHENANTHRENE | 370 UJ | 380 UJ |
| PHENOL | 370 UJ | 380 UJ |
| PYRENE | 370 UJ | 380 UJ |
| **VOLATILES (ug/kg)** | | |
| 1,1,1-TRICHLOROETHANE | 11 U | 11 U |
| 1,1,2,2-TETRACHLOROETHANE | 11 U | 11 U |
| 1,1,2-TRICHLOROETHANE | 11 U | 11 U |
| 1,1-DICHLOROETHANE | 11 U | 11 U |
| 1,1-DICHLOROETHENE | 11 U | 11 U |
| 1,2-DICHLOROETHANE | 11 U | 11 U |
| 1,2-DICHLOROETHENE (TOTAL) | 11 U | 11 U |
| 1,2-DICHLOROPROPANE | 11 U | 11 U |
| 2-BUTANONE | 11 U | 11 U |
| 2-HEXANONE | 11 U | 11 U |
| 4-METHYL-2-PENTANONE | 11 U | 11 U |
| ACETONE | 11 U | 11 U |
| BENZENE | 11 U | 11 U |
| BROMODICHLOROMETHANE | 11 U | 11 U |
| BROMOFORM | 11 U | 11 U |
| BROMOMETHANE | 11 U | 11 U |
| CARBON DISULFIDE | 11 U | 11 U |
| CARBON TETRACHLORIDE | 11 U | 11 U |
| CHLOROBENZENE | 11 U | 11 U |
| CHLORODIBROMOMETHANE | 11 U | 11 U |
| CHLOROETHANE | 11 U | 11 U |
| CHLOROFORM | 2 J | 1 J |
| CHLOROMETHANE | 11 U | 11 U |
| CIS-1,3-DICHLOROPROPENE | 11 U | 11 U |
| ETHYLBENZENE | 11 U | 11 U |
| METHYLENE CHLORIDE | 11 U | 11 U |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | 9SD1070001 | 9SD1080001 |
|---|---|---|
| LOCATION: | 9SW/SD107 | 9SW/SD108 |
| SAMPLE DATE: | 01/18/99 | 01/18/99 |
| ASSOCIATED DUPLICATE: | | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| STYRENE | 11 U | 11 U |
| TETRACHLOROETHENE | 11 U | 11 U |
| TOLUENE | 11 U | 11 U |
| TRANS-1,3-DICHLOROPROPENE | 11 U | 11 U |
| TRICHLOROETHENE | 11 U | 11 U |
| VINYL CHLORIDE | 11 U | 11 U |
| XYLENES, TOTAL | 11 U | 11 U |
| **PESTICIDES/PCBs (ug/kg)** | | |
| 4,4'-DDD | 0.12 B | 3.8 UJ |
| 4,4'-DDE | 0.71 J | 42 J |
| 4,4'-DDT | 3.8 UJ | 23 R |
| ALDRIN | 1.9 UJ | 1.9 UJ |
| ALPHA-BHC | 1.9 UJ | 1.9 UJ |
| ALPHA-CHLORDANE | 1.9 J | 1.9 UJ |
| AROCLOR-1016 | 38 UJ | 38 UJ |
| AROCLOR-1221 | 76 UJ | 75 UJ |
| AROCLOR-1232 | 38 UJ | 38 UJ |
| AROCLOR-1242 | 38 UJ | 38 UJ |
| AROCLOR-1248 | 38 UJ | 38 UJ |
| AROCLOR-1254 | 39 J | 1700 J |
| AROCLOR-1260 | 38 UJ | 38 UJ |
| BETA-BHC | 1.9 UJ | 1.9 UJ |
| DELTA-BHC | 1.9 UJ | 1.9 UJ |
| DIELDRIN | 0.58 J | 39 J |
| ENDOSULFAN I | 1.9 UJ | 1.9 UJ |
| ENDOSULFAN II | 3.8 UJ | 3.8 UJ |
| ENDOSULFAN SULFATE | 0.24 J | 40 J |
| ENDRIN | 3.8 UJ | 3.8 UJ |
| ENDRIN ALDEHYDE | 0.34 J | 3.8 UJ |
| ENDRIN KETONE | 3.8 UJ | 3.8 UJ |
| GAMMA-BHC (LINDANE) | 1.9 UJ | 1.9 UJ |
| GAMMA-CHLORDANE | 1.0 R | 21 R |
| HEPTACHLOR | 0.077 R | 0.10 R |
| HEPTACHLOR EPOXIDE | 0.013 R | 1.9 UJ |
| METHOXYCHLOR | 19 UJ | 19 UJ |
| TOXAPHENE | 190 UJ | 190 UJ |
| **EXPLOSIVES (mg/kg)** | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U |

TABLE N-5

SITE 9
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:** | **9SD1070001** | **9SD1080001** |
|---|---|---|
| **LOCATION:** | **9SW/SD107** | **9SW/SD108** |
| **SAMPLE DATE:** | **01/18/99** | **01/18/99** |
| **ASSOCIATED DUPLICATE:** | | |
| **VALIDATION STATUS:** | **VALIDATED** | **VALIDATED** |
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U |
| HMX | 0.50 U | 0.50 U |
| NITROBENZENE | 0.25 U | 0.25 U |
| RDX | 0.50 U | 0.50 U |
| TETRYL | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | |
| TOTAL ORGANIC CARBON | 1200 | 960 |

# APPENDIX O

# ANALYTICAL DATA

# PAINT BRANCH

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | PBSW1000001 | PBSW1000001-D | PBSW1010001 | PBSW1010001-D | PBSW1020001 | PBSW1030001 |
|---|---|---|---|---|---|---|
| LOCATION: | PB SW/SD 100 | PB SW/SD 100 | PB SW/SD 101 | PB SW/SD 101 | PB SW/SD 102 | PB SW/SD 103 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/26/99 | 01/26/99 | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSW1000001-D | PBSW1000001 | PBSW1010001-D | PBSW1010001 | | PBSW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | | | | | |
| ALUMINUM | 963 K | 914 K | 164 K | 143 K | 169 K | 182 K |
| ANTIMONY | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U | 19.6 U |
| ARSENIC | 1.5 U | 1.5 U | 2.0 | 1.6 | 2.0 | 1.5 U |
| BARIUM | 41.3 | 42.2 | 35.4 | 33.3 | 36.4 | 36.6 |
| BERYLLIUM | 0.19 B | 0.12 B | 0.10 U | 0.15 B | 0.15 B | 0.19 B |
| CADMIUM | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL | 2.7 UL |
| CALCIUM | 13600 | 14200 | 12000 | 11400 | 12200 | 12400 |
| CHROMIUM | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U |
| COBALT | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U | 3.3 U |
| COPPER | 6.7 B | 5.9 B | 4.9 B | 4.7 B | 5.1 B | 5.1 B |
| CYANIDE | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U |
| IRON | 1790 J | 1750 J | 478 J | 442 J | 492 J | 539 J |
| LEAD | 3.2 | 2.5 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| MAGNESIUM | 4040 | 4160 | 3820 | 3590 | 3850 | 3880 |
| MANGANESE | 69.6 | 72.4 | 57.6 | 54.0 | 57.6 | 54.6 |
| MERCURY | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| NICKEL | 7.5 U | 7.5 U | 7.5 U | 7.5 U | 7.5 U | 7.5 U |
| POTASSIUM | 2890 | 2790 | 2470 | 2380 | 2430 | 2600 |
| SELENIUM | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ |
| SILVER | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL | 2.8 UL |
| SODIUM | 55300 | 57000 | 41200 | 38400 | 42300 | 44200 |
| THALLIUM | 3.0 | 3.7 | 2.9 U | 3.5 | 3.9 | 4.8 |
| VANADIUM | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| ZINC | 27.0 | 26.4 | 16.9 | 18.8 | 19.9 | 18.5 |
| **SEMIVOLATILES (ug/L)** | | | | | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 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 |
| 2,4-DICHLOROPHENOL | 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 |
| 2,4-DINITROPHENOL | 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 |
| 2,6-DINITROTOLUENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 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 |
| 2-METHYLNAPHTHALENE | 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 |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| **SAMPLE I.D.:** | **PBSW1000001** | **PBSW1000001-D** | **PBSW1010001** | **PBSW1010001-D** | **PBSW1020001** | **PBSW1030001** |
|---|---|---|---|---|---|---|
| **LOCATION:** | **PB SW/SD 100** | **PB SW/SD 100** | **PB SW/SD 101** | **PB SW/SD 101** | **PB SW/SD 102** | **PB SW/SD 103** |
| **SAMPLE DATE:** | **01/25/99** | **01/25/99** | **01/26/99** | **01/26/99** | **01/26/99** | **01/26/99** |
| **ASSOCIATED DUPLICATE:** | **PBSW1000001-D** | **PBSW1000001** | **PBSW1010001-D** | **PBSW1010001** | | **PBSW1030001-D** |
| **VALIDATION STATUS:** | **VALIDATED** | **VALIDATED** | **VALIDATED** | **VALIDATED** | **VALIDATED** | **VALIDATED** |
| 2-NITROANILINE | 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 |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 3-NITROANILINE | 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 |
| 4-BROMOPHENYL PHENYL ETHER | 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 |
| 4-CHLOROANILINE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 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 |
| 4-NITROANILINE | 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 |
| ACENAPHTHENE | 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 |
| ANTHRACENE | 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 |
| BENZO(A)PYRENE | 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 |
| BENZO(G,H,I)PERYLENE | 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 |
| BIS(2-CHLOROETHOXY)METHANE | 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 |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| BUTYLBENZYL PHTHALATE | 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 |
| DI-N-BUTYL PHTHALATE | 5 U | 1.2 J | 5 U | 5 U | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 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 |
| DIETHYL PHTHALATE | 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 |
| FLUORANTHENE | 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 |
| HEXACHLOROBENZENE | 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 |
| HEXACHLOROCYCLOPENTADIENE | 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 |
| ENO(1,2,3-CD)PYRENE | 5 U | 5 | 5 U | 5 U | 5 U | 5 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | PBSW1000001 | PBSW1000001-D | PBSW1010001 | PBSW1010001-D | PBSW1020001 | PBSW1030001 |
|---|---|---|---|---|---|---|
| LOCATION: | PB SW/SD 100 | PB SW/SD 100 | PB SW/SD 101 | PB SW/SD 101 | PB SW/SD 102 | PB SW/SD 103 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/26/99 | 01/26/99 | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSW1000001-D | PBSW1000001 | PBSW1010001-D | PBSW1010001 | | PBSW1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| ISOPHORONE | 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 |
| N-NITROSODIPHENYLAMINE | 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 |
| NITROBENZENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| PHENANTHRENE | 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 |
| PYRENE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **VOLATILES (ug/L)** | | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 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 |
| 1,1-DICHLOROETHENE | 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 |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 |
| 1,2-DICHLOROPROPANE | 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 |
| 1,4 DICHLOROBENZENE | 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 |
| 2-HEXANONE | 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 |
| ACETONE | 5 UR | 5 UR | 2 B | 2.6 B | 2.7 B | 3 B |
| BENZENE | 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 |
| BROMODICHLOROMETHANE | 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 |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 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 |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 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 |
| CHLOROFORM | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| **SAMPLE I.D.:** | **PBSW1000001** | **PBSW1000001-D** | **PBSW1010001** | **PBSW1010001-D** | **PBSW1020001** | **PBSW1030001** |
|---|---|---|---|---|---|---|
| **LOCATION:** | **PB SW/SD 100** | **PB SW/SD 100** | **PB SW/SD 101** | **PB SW/SD 101** | **PB SW/SD 102** | **PB SW/SD 103** |
| **SAMPLE DATE:** | **01/25/99** | **01/25/99** | **01/26/99** | **01/26/99** | **01/26/99** | **01/26/99** |
| **ASSOCIATED DUPLICATE:** | **PBSW1000001-D** | **PBSW1000001** | **PBSW1010001-D** | **PBSW1010001** | | **PBSW1030001-D** |
| **VALIDATION STATUS:** | **VALIDATED** | **VALIDATED** | **VALIDATED** | **VALIDATED** | **VALIDATED** | **VALIDATED** |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 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 |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| STYRENE | 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 |
| TOLUENE | 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 |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| TRICHLOROETHENE | 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 |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | | | | | |
| 4,4'-DDD | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ALDRIN | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| ALPHA-BHC | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| ALPHA-CHLORDANE | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| AROCLOR-1016 | 1.1 U | 1.1 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.1 U | 2.1 U | 2.0 U | 2.1 U | 2.1 U | 2.1 U |
| AROCLOR-1232 | 1.1 U | 1.1 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.1 U | 1.1 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.1 U | 1.1 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.1 U | 1.1 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.1 U | 1.1 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| BETA-BHC | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| DELTA-BHC | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| DIELDRIN | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| ENDOSULFAN II | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.11 U | 0.11 U | 0.10 U | 0.10 U | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| GAMMA-CHLORDANE | 0.053 U | 0.0[illegible] | 0.050 U | 0.052 U | 0.052 U | 0.052[illegible] |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **PBSW1000001**<br>**PB SW/SD 100**<br>**01/25/99**<br>**PBSW1000001-D**<br>**VALIDATED** | **PBSW1000001-D**<br>**PB SW/SD 100**<br>**01/25/99**<br>**PBSW1000001**<br>**VALIDATED** | **PBSW1010001**<br>**PB SW/SD 101**<br>**01/26/99**<br>**PBSW1010001-D**<br>**VALIDATED** | **PBSW1010001-D**<br>**PB SW/SD 101**<br>**01/26/99**<br>**PBSW1010001**<br>**VALIDATED** | **PBSW1020001**<br>**PB SW/SD 102**<br>**01/26/99**<br><br>**VALIDATED** | **PBSW1030001**<br>**PB SW/SD 103**<br>**01/26/99**<br>**PBSW1030001-D**<br>**VALIDATED** |
|---|---|---|---|---|---|---|
| HEPTACHLOR | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| HEPTACHLOR EPOXIDE | 0.053 U | 0.053 U | 0.050 U | 0.052 U | 0.052 U | 0.052 U |
| METHOXYCHLOR | 0.53 U | 0.53 U | 0.50 U | 0.52 U | 0.52 U | 0.52 U |
| TOXAPHENE | 5.3 U | 5.3 U | 5.0 U | 5.2 U | 5.2 U | 5.2 U |
| **EXPLOSIVES (ug/L)** | | | | | | |
| 1,3,5-TRINITROBENZENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 1,3-DINITROBENZENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 2,4 DINITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 2,4,6-TRINITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 2,6 DINITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 2-NITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 3-NITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| 4-NITROTOLUENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| HMX | 0.50 U | 0.50 U | 1 U | 1 U | 1 U | 1 U |
| NITROBENZENE | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| RDX | 0.50 U | 0.50 U | 1 U | 1 U | 1 U | 1 U |
| TETRYL | 0.20 U | 0.20 U | 0.40 U | 0.40 U | 0.40 U | 0.40 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | | | | | |
| TOTAL DISSOLVED SOLIDS | 36 | 10 U | 180 | 180 | 180 | 190 |
| TOTAL SUSPENDED SOLIDS | 48 | 20 | 4 U | 4 U | 4 U | 4 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | PBSW1030001-D | PBSW1040001 |
|---|---|---|
| LOCATION: | PB SW/SD 103 | PB SW/SD 104 |
| SAMPLE DATE: | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSW1030001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **INORGANICS (ug/L)** | | |
| ALUMINUM | 217 K | 175 B |
| ANTIMONY | 19.6 U | 26.7 B |
| ARSENIC | 1.7 | 1.5 U |
| BARIUM | 36.2 | 37.2 |
| BERYLLIUM | 0.12 B | 0.15 B |
| CADMIUM | 2.7 UL | 3.6 B |
| CALCIUM | 12100 | 11500 |
| CHROMIUM | 2.3 U | 2.3 U |
| COBALT | 3.3 U | 3.3 U |
| COPPER | 4.5 B | 4.4 B |
| CYANIDE | 10.0 U | 10.0 U |
| IRON | 572 J | 467 |
| LEAD | 1.0 U | 1.0 U |
| MAGNESIUM | 3790 | 3870 |
| MANGANESE | 53.8 | 50.1 |
| MERCURY | 0.20 U | 0.20 U |
| NICKEL | 7.5 U | 7.5 U |
| POTASSIUM | 2280 | 2790 B |
| SELENIUM | 2.5 UJ | 2.5 UL |
| SILVER | 2.8 UL | 2.8 U |
| SODIUM | 43400 | 46000 |
| THALLIUM | 3.7 | 3.4 |
| VANADIUM | 2.1 U | 2.1 U |
| ZINC | 19.4 | 14.6 K |
| **SEMIVOLATILES (ug/L)** | | |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 5 U | 5 U |
| 2,4,5-TRICHLOROPHENOL | 20 U | 20 U |
| 2,4,6-TRICHLOROPHENOL | 5 U | 5 U |
| 2,4-DICHLOROPHENOL | 5 U | 5 U |
| 2,4-DIMETHYLPHENOL | 5 U | 5 U |
| 2,4-DINITROPHENOL | 20 U | 20 U |
| 2,4-DINITROTOLUENE | 5 U | 5 U |
| 2,6-DINITROTOLUENE | 5 U | 5 U |
| 2-CHLORONAPHTHALENE | 5 U | 5 U |
| 2-CHLOROPHENOL | 5 U | 5 U |
| 2-METHYLNAPHTHALENE | 5 U | 5 U |
| 2-METHYLPHENOL | 5 U | 5 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **PBSW1030001-D**<br>**PB SW/SD 103**<br>**01/26/99**<br>**PBSW1030001**<br>**VALIDATED** | **PBSW1040001**<br>**PB SW/SD 104**<br>**01/26/99**<br><br>**VALIDATED** |
|---|---|---|
| 2-NITROANILINE | 20 U | 20 U |
| 2-NITROPHENOL | 5 U | 5 U |
| 3,3'-DICHLOROBENZIDINE | 5 U | 5 U |
| 3-NITROANILINE | 20 U | 20 U |
| 4,6-DINITRO-2-METHYLPHENOL | 20 U | 20 U |
| 4-BROMOPHENYL PHENYL ETHER | 5 U | 5 U |
| 4-CHLORO-3-METHYLPHENOL | 5 U | 5 U |
| 4-CHLOROANILINE | 5 U | 5 U |
| 4-CHLOROPHENYL PHENYL ETHER | 5 U | 5 U |
| 4-METHYLPHENOL | 5 U | 5 U |
| 4-NITROANILINE | 20 U | 20 U |
| 4-NITROPHENOL | 20 U | 20 U |
| ACENAPHTHENE | 5 U | 5 U |
| ACENAPHTHYLENE | 5 U | 5 U |
| ANTHRACENE | 5 U | 5 U |
| BENZO(A)ANTHRACENE | 5 U | 5 U |
| BENZO(A)PYRENE | 5 U | 5 U |
| BENZO(B)FLUORANTHENE | 5 U | 5 U |
| BENZO(G,H,I)PERYLENE | 5 U | 5 U |
| BENZO(K)FLUORANTHENE | 5 U | 5 U |
| BIS(2-CHLOROETHOXY)METHANE | 5 U | 5 U |
| BIS(2-CHLOROETHYL)ETHER | 5 U | 5 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5 U | 5 U |
| BUTYLBENZYL PHTHALATE | 5 U | 5 U |
| CHRYSENE | 5 U | 5 U |
| DI-N-BUTYL PHTHALATE | 5 U | 5 U |
| DI-N-OCTYL PHTHALATE | 5 U | 5 U |
| DIBENZO(A,H)ANTHRACENE | 5 U | 5 U |
| DIBENZOFURAN | 5 U | 5 U |
| DIETHYL PHTHALATE | 5 U | 5 U |
| DIMETHYL PHTHALATE | 5 U | 5 U |
| FLUORANTHENE | 5 U | 5 U |
| FLUORENE | 5 U | 5 U |
| HEXACHLOROBENZENE | 5 U | 5 U |
| HEXACHLOROBUTADIENE | 5 U | 5 U |
| HEXACHLOROCYCLOPENTADIENE | 5 U | 5 U |
| HEXACHLOROETHANE | 5 U | 5 U |
| INDENO(1,2,3-CD)PYRENE | 5 U | 5 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| SAMPLE I.D.: | PBSW1030001-D | PBSW1040001 |
|---|---|---|
| LOCATION: | PB SW/SD 103 | PB SW/SD 104 |
| SAMPLE DATE: | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSW1030001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| ISOPHORONE | 5 U | 5 U |
| N-NITROSO-DI-N-PROPYLAMINE | 5 U | 5 U |
| N-NITROSODIPHENYLAMINE | 5 U | 5 U |
| NAPHTHALENE | 5 U | 5 U |
| NITROBENZENE | 5 U | 5 U |
| PENTACHLOROPHENOL | 20 U | 20 U |
| PHENANTHRENE | 5 U | 5 U |
| PHENOL | 5 U | 5 U |
| PYRENE | 5 U | 5 U |
| **VOLATILES (ug/L)** | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U |
| 1,2-DICHLOROPROPANE | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U |
| 2-BUTANONE | 5 U | 5 U |
| 2-HEXANONE | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U |
| ACETONE | 2.4 B | 3 B |
| BENZENE | 1 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U |
| BROMOFORM | 1 U | 1 U |
| BROMOMETHANE | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U |
| CHLOROBENZENE | 1 U | 1 U |
| CHLORODIBROMOMETHANE | 1 U | 1 U |
| CHLOROETHANE | 1 U | 1 U |
| CHLOROFORM | 1 U | 1 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **PBSW1030001-D**<br>**PB SW/SD 103**<br>**01/26/99**<br>**PBSW1030001**<br>**VALIDATED** | **PBSW1040001**<br>**PB SW/SD 104**<br>**01/26/99**<br><br>**VALIDATED** |
|---|---|---|
| CHLOROMETHANE | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U |
| ETHYLBENZENE | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U |
| STYRENE | 1 U | 1 U |
| TETRACHLOROETHENE | 1 U | 1 U |
| TOLUENE | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U |
| TRICHLOROETHENE | 1 U | 1 U |
| VINYL CHLORIDE | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U |
| **PESTICIDES/PCBs (ug/L)** | | |
| 4,4'-DDD | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.10 U | 0.10 U |
| ALDRIN | 0.052 U | 0.052 U |
| ALPHA-BHC | 0.052 U | 0.052 U |
| ALPHA-CHLORDANE | 0.052 U | 0.052 U |
| AROCLOR-1016 | 1.0 U | 1.0 U |
| AROCLOR-1221 | 2.0 U | 2.1 U |
| AROCLOR-1232 | 1.0 U | 1.0 U |
| AROCLOR-1242 | 1.0 U | 1.0 U |
| AROCLOR-1248 | 1.0 U | 1.0 U |
| AROCLOR-1254 | 1.0 U | 1.0 U |
| AROCLOR-1260 | 1.0 U | 1.0 U |
| BETA-BHC | 0.052 U | 0.052 U |
| DELTA-BHC | 0.052 U | 0.052 U |
| DIELDRIN | 0.10 U | 0.10 U |
| ENDOSULFAN I | 0.052 U | 0.052 U |
| ENDOSULFAN II | 0.10 U | 0.10 U |
| ENDOSULFAN SULFATE | 0.10 U | 0.10 U |
| ENDRIN | 0.10 U | 0.10 U |
| ENDRIN ALDEHYDE | 0.10 U | 0.10 U |
| ENDRIN KETONE | 0.10 U | 0.10 U |
| GAMMA-BHC (LINDANE) | 0.052 U | 0.052 U |
| GAMMA-CHLORDANE | 0.052 U | 0.052 U |

TABLE O-1

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **PBSW1030001-D**<br>**PB SW/SD 103**<br>**01/26/99**<br>**PBSW1030001**<br>**VALIDATED** | **PBSW1040001**<br>**PB SW/SD 104**<br>**01/26/99**<br><br>**VALIDATED** |
|---|---|---|
| HEPTACHLOR | 0.052 U | 0.052 U |
| HEPTACHLOR EPOXIDE | 0.052 U | 0.052 U |
| METHOXYCHLOR | 0.52 U | 0.52 U |
| TOXAPHENE | 5.2 U | 5.2 U |
| **EXPLOSIVES (ug/L)** | | |
| 1,3,5-TRINITROBENZENE | 0.40 U | 0.40 U |
| 1,3-DINITROBENZENE | 0.40 U | 0.40 U |
| 2,4 DINITROTOLUENE | 0.40 U | 0.40 U |
| 2,4,6-TRINITROTOLUENE | 0.40 U | 0.40 U |
| 2,6 DINITROTOLUENE | 0.40 U | 0.40 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.40 U | 0.40 U |
| 2-NITROTOLUENE | 0.40 U | 0.40 U |
| 3-NITROTOLUENE | 0.40 U | 0.40 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.40 U | 0.40 U |
| 4-NITROTOLUENE | 0.40 U | 0.40 U |
| HMX | 1 U | 1 U |
| NITROBENZENE | 0.40 U | 0.40 U |
| RDX | 1 U | 1 U |
| TETRYL | 0.40 U | 0.40 U |
| **MISCELLANEOUS PARAMETERS (mg/L)** | | |
| TOTAL DISSOLVED SOLIDS | 180 | 160 |
| TOTAL SUSPENDED SOLIDS | 4 U | 4 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | PBSD1000001 | PBSD1000001-D | PBSD1010001 | PBSD1010001-D | PBSD1020001 | PBSD1030001 |
|---|---|---|---|---|---|---|
| LOCATION: | PB SW/SD 100 | PB SW/SD 100 | PB SW/SD 101 | PB SW/SD 101 | PB SW/SD 102 | PB SW/SD 103 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/26/99 | 01/26/99 | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSD1000001-D | PBSD1000001 | PBSD1010001-D | PBSD1010001 | | PBSD1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | | | | | |
| ALUMINUM | 3400 | 3340 | 2590 | 1770 | 4500 | 2740 |
| ANTIMONY | 0.82 U | 0.80 U | 0.73 U | 0.69 U | 0.76 U | 0.73 U |
| ARSENIC | 0.77 U | 0.77 | 0.71 | 0.66 | 0.70 U | 0.68 U |
| BARIUM | 22.3 | 18.1 | 13.0 | 10.7 | 30.9 | 17.2 |
| BERYLLIUM | 0.09 B | 0.37 B | 0.25 B | 0.16 B | 0.02 U | 0.18 B |
| CADMIUM | 0.06 U | 0.06 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| CALCIUM | 346 B | 427 B | 237 B | 260 B | 436 B | 271 B |
| CHROMIUM | 8.7 | 26.0 | 13.1 | 12.9 | 11.3 | 7.9 |
| COBALT | 4.6 | 5.4 | 3.3 | 3.0 | 5.2 | 3.8 |
| COPPER | 6.8 B | 7.7 B | 6.5 B | 4.1 B | 9.0 B | 5.1 B |
| CYANIDE | 0.20 UL | 0.19 UL | 3.3 U | 3.1 U | 3.8 U | 3.3 U |
| IRON | 8570 J | 20200 J | 9570 J | 9980 J | 10600 J | 8120 J |
| LEAD | 5.1 K | 7.9 K | 4.7 K | 4.0 K | 7.4 K | 4.6 K |
| MAGNESIUM | 1190 | 754 | 1200 | 747 | 1450 | 1310 |
| MANGANESE | 144 K | 172 K | 111 K | 132 K | 93.8 K | 151 K |
| MERCURY | 0.07 UR | 0.07 UR | 0.06 UR | 0.06 UR | 0.07 UR | 0.07 UR |
| NICKEL | 9.6 | 9.4 | 8.6 | 7.5 | 10.3 | 10.8 |
| POTASSIUM | 766 J | 480 J | 414 J | 308 J | 1070 J | 513 J |
| SELENIUM | 0.82 UL | 0.97 L | 0.73 UL | 0.69 UL | 0.76 UL | 0.73 UL |
| SILVER | 0.21 U | 0.20 U | 0.18 | 0.17 U | 0.19 U | 0.18 U |
| SODIUM | 260 B | 175 B | 144 B | 181 B | 188 B | 249 B |
| THALLIUM | 1.6 U | 1.6 U | 1.5 U | 1.4 U | 1.5 U | 1.5 U |
| VANADIUM | 9.2 | 21.8 | 9.1 | 12.3 | 12.9 | 7.9 |
| ZINC | 33.3 J | 40.6 J | 21.9 J | 21.6 J | 41.1 J | 28.2 J |
| **SEMIVOLATILES (ug/kg)** | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 1,2-DICHLOROBENZENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 1,3-DICHLOROBENZENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 1,4-DICHLOROBENZENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2,4,5-TRICHLOROPHENOL | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| 2,4,6-TRICHLOROPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2,4-DICHLOROPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2,4-DIMETHYLPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2,4-DINITROPHENOL | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| 2,4-DINITROTOLUENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2,6-DINITROTOLUENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2-CHLORONAPHTHALENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | PBSD1000001 | PBSD1000001-D | PBSD1010001 | PBSD1010001-D | PBSD1020001 | PBSD1030001 |
|---|---|---|---|---|---|---|
| LOCATION: | PB SW/SD 100 | PB SW/SD 100 | PB SW/SD 101 | PB SW/SD 101 | PB SW/SD 102 | PB SW/SD 103 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/26/99 | 01/26/99 | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSD1000001-D | PBSD1000001 | PBSD1010001-D | PBSD1010001 | | PBSD1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| 2-CHLOROPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2-METHYLNAPHTHALENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2-METHYLPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 2-NITROANILINE | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| 2-NITROPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 3,3'-DICHLOROBENZIDINE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 3-NITROANILINE | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| 4,6-DINITRO-2-METHYLPHENOL | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| 4-BROMOPHENYL PHENYL ETHER | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 4-CHLORO-3-METHYLPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 4-CHLOROANILINE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 4-CHLOROPHENYL PHENYL ETHER | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 4-METHYLPHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| 4-NITROANILINE | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| 4-NITROPHENOL | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| ACENAPHTHENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| ACENAPHTHYLENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| ANTHRACENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| BENZO(A)ANTHRACENE | 160 J | 81 J | 62 J | 440 U | 360 J | 430 U |
| BENZO(A)PYRENE | 150 J | 82 J | 64 J | 440 U | 440 J | 44 J |
| BENZO(B)FLUORANTHENE | 280 J | 140 J | 110 J | 440 U | 730 | 77 J |
| BENZO(G,H,I)PERYLENE | 97 J | 470 U | 430 U | 440 U | 240 J | 430 U |
| BENZO(K)FLUORANTHENE | 100 J | 57 J | 51 J | 440 U | 270 J | 430 U |
| BIS(2-CHLOROETHOXY)METHANE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| BIS(2-CHLOROETHYL)ETHER | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| BUTYLBENZYL PHTHALATE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| CARBAZOLE | 490 U | 470 U | 430 U | 440 U | 57 J | 430 U |
| CHRYSENE | 220 J | 120 J | 98 J | 440 U | 530 | 59 J |
| DI-N-BUTYL PHTHALATE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| DI-N-OCTYL PHTHALATE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| DIBENZO(A,H)ANTHRACENE | 490 U | 470 U | 430 U | 440 U | 63 J | 430 U |
| DIBENZOFURAN | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| DIETHYL PHTHALATE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| DIMETHYL PHTHALATE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| FLUORANTHENE | 430 J | 260 J | 170 J | 69 J | 1200 | 110 J |
| FLUORENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| HEXACHLOROBENZENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| HEXACHLOROBUTADIENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | PBSD1000001 | PBSD1000001-D | PBSD1010001 | PBSD1010001-D | PBSD1020001 | PBSD1030001 |
|---|---|---|---|---|---|---|
| LOCATION: | PB SW/SD 100 | PB SW/SD 100 | PB SW/SD 101 | PB SW/SD 101 | PB SW/SD 102 | PB SW/SD 103 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/26/99 | 01/26/99 | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSD1000001-D | PBSD1000001 | PBSD1010001-D | PBSD1010001 | | PBSD1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| HEXACHLOROCYCLOPENTADIENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| HEXACHLOROETHANE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| INDENO(1,2,3-CD)PYRENE | 110 J | 50 J | 49 J | 440 U | 240 J | 430 U |
| ISOPHORONE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| N-NITROSO-DI-N-PROPYLAMINE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| N-NITROSODIPHENYLAMINE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| NAPHTHALENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| NITROBENZENE | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| PENTACHLOROPHENOL | 1200 U | 1100 U | 1000 U | 1100 U | 1100 U | 1000 U |
| PHENANTHRENE | 180 J | 140 J | 61 J | 440 U | 450 | 50 J |
| PHENOL | 490 U | 470 U | 430 U | 440 U | 440 U | 430 U |
| PYRENE | 330 J | 200 J | 140 J | 52 J | 830 | 87 J |
| **VOLATILES (ug/kg)** | | | | | | |
| 1,1,1-TRICHLOROETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,1,2,2-TETRACHLOROETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,1,2-TRICHLOROETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,1-DICHLOROETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,1-DICHLOROETHENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,2-DICHLOROETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,2-DICHLOROETHENE (TOTAL) | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 1,2-DICHLOROPROPANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 2-BUTANONE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| 2-HEXANONE | 15 UJ | 14 UJ | 13 UJ | 12 UJ | 14 UJ | 13 UJ |
| 4-METHYL-2-PENTANONE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| ACETONE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| BENZENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| BROMODICHLOROMETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| BROMOFORM | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| BROMOMETHANE | 2 B | 14 U | 13 U | 12 U | 14 U | 13 U |
| CARBON DISULFIDE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CARBON TETRACHLORIDE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CHLOROBENZENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CHLORODIBROMOMETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CHLOROETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CHLOROFORM | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CHLOROMETHANE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| CIS-1,3-DICHLOROPROPENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| ETHYLBENZENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| METHYLENE CHLORIDE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | PBSD1000001 | PBSD1000001-D | PBSD1010001 | PBSD1010001-D | PBSD1020001 | PBSD1030001 |
|---|---|---|---|---|---|---|
| LOCATION: | PB SW/SD 100 | PB SW/SD 100 | PB SW/SD 101 | PB SW/SD 101 | PB SW/SD 102 | PB SW/SD 103 |
| SAMPLE DATE: | 01/25/99 | 01/25/99 | 01/26/99 | 01/26/99 | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSD1000001-D | PBSD1000001 | PBSD1010001-D | PBSD1010001 | | PBSD1030001-D |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| STYRENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| TETRACHLOROETHENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| TOLUENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| TRANS-1,3-DICHLOROPROPENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| TRICHLOROETHENE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| VINYL CHLORIDE | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| XYLENES, TOTAL | 15 U | 14 U | 13 U | 12 U | 14 U | 13 U |
| **PESTICIDES/PCBs (ug/kg)** | | | | | | |
| 4,4'-DDD | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| 4,4'-DDE | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| 4,4'-DDT | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| ALDRIN | 12 U | 2.4 U | 2.2 U | 2.0 U | 4.5 U | 2.2 UJ |
| ALPHA-BHC | 12 U | 2.4 U | 2.2 U | 2.0 U | 0.13 R | 2.2 UJ |
| ALPHA-CHLORDANE | 12 U | 1.3 J | 0.84 J | 0.45 J | 4.5 U | 2.2 UJ |
| AROCLOR-1016 | 240 U | 48 U | 43 U | 41 U | 90 U | 43 UJ |
| AROCLOR-1221 | 490 U | 95 U | 86 U | 82 U | 180 U | 86 UJ |
| AROCLOR-1232 | 240 U | 48 U | 43 U | 41 U | 90 U | 43 UJ |
| AROCLOR-1242 | 240 U | 48 U | 43 U | 41 U | 90 U | 43 UJ |
| AROCLOR-1248 | 240 U | 48 U | 43 U | 41 U | 90 U | 43 UJ |
| AROCLOR-1254 | 240 U | 48 U | 43 U | 41 U | 90 U | 43 UJ |
| AROCLOR-1260 | 240 U | 48 U | 50 | 9.4 J | 43 J | 8.7 J |
| BETA-BHC | 12 U | 2.4 U | 2.2 U | 2.0 U | 4.5 U | 2.2 UJ |
| DELTA-BHC | 12 U | 2.4 U | 2.2 U | 0.11 R | 4.5 U | 0.088 R |
| DIELDRIN | 24 U | 4.8 U | 0.54 J | 4.1 U | 0.68 J | 4.3 UJ |
| ENDOSULFAN I | 12 U | 2.4 U | 2.2 U | 2.0 U | 4.5 U | 2.2 UJ |
| ENDOSULFAN II | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| ENDOSULFAN SULFATE | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| ENDRIN | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| ENDRIN ALDEHYDE | 24 U | 0.29 R | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| ENDRIN KETONE | 24 U | 4.8 U | 4.3 U | 4.1 U | 9.0 U | 4.3 UJ |
| GAMMA-BHC (LINDANE) | 12 U | 2.4 U | 2.2 U | 2.0 U | 4.5 U | 2.2 UJ |
| GAMMA-CHLORDANE | 0.84 R | 0.99 R | 0.92 R | 0.33 R | 1.2 R | 0.33 R |
| HEPTACHLOR | 12 U | 2.4 U | 2.2 U | 2.0 U | 4.5 U | 2.2 UJ |
| HEPTACHLOR EPOXIDE | 12 U | 0.14 R | 0.096 J | 0.074 R | 4.5 U | 0.11 R |
| METHOXYCHLOR | 120 U | 24 U | 22 U | 20 U | 45 U | 22 UJ |
| TOXAPHENE | 1200 U | 240 U | 220 U | 200 U | 450 U | 220 UJ |
| **EXPLOSIVES (mg/kg)** | | | | | | |
| [illegible]-TRINITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| [illegible]INITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **PBSD1000001**<br>**PB SW/SD 100**<br>**01/25/99**<br>**PBSD1000001-D**<br>**VALIDATED** | **PBSD1000001-D**<br>**PB SW/SD 100**<br>**01/25/99**<br>**PBSD1000001**<br>**VALIDATED** | **PBSD1010001**<br>**PB SW/SD 101**<br>**01/26/99**<br>**PBSD1010001-D**<br>**VALIDATED** | **PBSD1010001-D**<br>**PB SW/SD 101**<br>**01/26/99**<br>**PBSD1010001**<br>**VALIDATED** | **PBSD1020001**<br>**PB SW/SD 102**<br>**01/26/99**<br>**VALIDATED** | **PBSD1030001**<br>**PB SW/SD 103**<br>**01/26/99**<br>**PBSD1030001-D**<br>**VALIDATED** |
|---|---|---|---|---|---|---|
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| HMX | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.051 J |
| NITROBENZENE | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| RDX | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| TETRYL | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | | | | | |
| TOTAL ORGANIC CARBON | 600 J | 910 J | 1500 J | 800 J | 1900 J | 830 J |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.: | PBSD1030001-D | PBSD1040001 |
|---|---|---|
| LOCATION: | PB SW/SD 103 | PB SW/SD 104 |
| SAMPLE DATE: | 01/26/99 | 01/26/99 |
| ASSOCIATED DUPLICATE: | PBSD1030001 | |
| VALIDATION STATUS: | VALIDATED | VALIDATED |
| **INORGANICS (mg/kg)** | | |
| ALUMINUM | 3020 | 2490 |
| ANTIMONY | 0.72 U | 0.77 U |
| ARSENIC | 0.67 U | 0.71 U |
| BARIUM | 23.7 | 18.5 |
| BERYLLIUM | 0.02 U | 0.09 B |
| CADMIUM | 0.05 U | 0.05 U |
| CALCIUM | 418 B | 280 B |
| CHROMIUM | 7.5 | 8.9 |
| COBALT | 4.3 | 4.4 |
| COPPER | 7.1 B | 5.4 B |
| CYANIDE | 3.2 U | 3.5 U |
| IRON | 7510 J | 10100 J |
| LEAD | 6.1 K | 5.1 K |
| MAGNESIUM | 1640 | 849 |
| MANGANESE | 198 K | 201 K |
| MERCURY | 0.06 UR | 0.07 UR |
| NICKEL | 14.0 | 11.1 |
| POTASSIUM | 682 J | 574 J |
| SELENIUM | 0.72 UL | 0.77 UL |
| SILVER | 0.18 U | 0.19 U |
| SODIUM | 314 B | 152 B |
| THALLIUM | 1.4 U | 1.5 U |
| VANADIUM | 8.7 | 10.8 |
| ZINC | 30.5 J | 27.6 J |
| **SEMIVOLATILES (ug/kg)** | | |
| 1,2,4-TRICHLOROBENZENE | 420 U | 450 U |
| 1,2-DICHLOROBENZENE | 420 U | 450 U |
| 1,3-DICHLOROBENZENE | 420 U | 450 U |
| 1,4-DICHLOROBENZENE | 420 U | 450 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 420 U | 450 U |
| 2,4,5-TRICHLOROPHENOL | 1000 U | 1100 U |
| 2,4,6-TRICHLOROPHENOL | 420 U | 450 U |
| 2,4-DICHLOROPHENOL | 420 U | 450 U |
| 2,4-DIMETHYLPHENOL | 420 U | 450 U |
| 2,4-DINITROPHENOL | 1000 U | 1100 U |
| 2,4-DINITROTOLUENE | 420 U | 450 U |
| 2,6-DINITROTOLUENE | 420 U | 450 U |
| 2-CHLORONAPHTHALENE | 420 U | 450 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.:<br>LOCATION:<br>SAMPLE DATE:<br>ASSOCIATED DUPLICATE:<br>VALIDATION STATUS: | PBSD1030001-D<br>PB SW/SD 103<br>01/26/99<br>PBSD1030001<br>VALIDATED | PBSD1040001<br>PB SW/SD 104<br>01/26/99<br><br>VALIDATED |
|---|---|---|
| 2-CHLOROPHENOL | 420 U | 450 U |
| 2-METHYLNAPHTHALENE | 420 U | 450 U |
| 2-METHYLPHENOL | 420 U | 450 U |
| 2-NITROANILINE | 1000 U | 1100 U |
| 2-NITROPHENOL | 420 U | 450 U |
| 3,3'-DICHLOROBENZIDINE | 420 U | 450 U |
| 3-NITROANILINE | 1000 U | 1100 U |
| 4,6-DINITRO-2-METHYLPHENOL | 1000 U | 1100 U |
| 4-BROMOPHENYL PHENYL ETHER | 420 U | 450 U |
| 4-CHLORO-3-METHYLPHENOL | 420 U | 450 U |
| 4-CHLOROANILINE | 420 U | 450 U |
| 4-CHLOROPHENYL PHENYL ETHER | 420 U | 450 U |
| 4-METHYLPHENOL | 420 U | 450 U |
| 4-NITROANILINE | 1000 U | 1100 U |
| 4-NITROPHENOL | 1000 U | 1100 U |
| ACENAPHTHENE | 420 U | 450 U |
| ACENAPHTHYLENE | 420 U | 450 U |
| ANTHRACENE | 420 U | 450 U |
| BENZO(A)ANTHRACENE | 48 J | 67 J |
| BENZO(A)PYRENE | 420 U | 450 U |
| BENZO(B)FLUORANTHENE | 74 J | 84 J |
| BENZO(G,H,I)PERYLENE | 420 U | 450 U |
| BENZO(K)FLUORANTHENE | 420 U | 450 U |
| BIS(2-CHLOROETHOXY)METHANE | 420 U | 450 U |
| BIS(2-CHLOROETHYL)ETHER | 420 U | 450 U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 420 U | 450 U |
| BUTYLBENZYL PHTHALATE | 420 U | 450 U |
| CARBAZOLE | 420 U | 450 U |
| CHRYSENE | 69 J | 92 J |
| DI-N-BUTYL PHTHALATE | 420 U | 450 U |
| DI-N-OCTYL PHTHALATE | 420 U | 450 U |
| DIBENZO(A,H)ANTHRACENE | 420 U | 450 U |
| DIBENZOFURAN | 420 U | 450 U |
| DIETHYL PHTHALATE | 420 U | 450 U |
| DIMETHYL PHTHALATE | 420 U | 450 U |
| FLUORANTHENE | 150 J | 220 J |
| FLUORENE | 420 U | 450 U |
| HEXACHLOROBENZENE | 420 U | 450 U |
| HEXACHLOROBUTADIENE | 420 U | 450 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:** | **PBSD1030001-D** | **PBSD1040001** |
|---|---|---|
| **LOCATION:** | **PB SW/SD 103** | **PB SW/SD 104** |
| **SAMPLE DATE:** | **01/26/99** | **01/26/99** |
| **ASSOCIATED DUPLICATE:** | **PBSD1030001** | |
| **VALIDATION STATUS:** | **VALIDATED** | **VALIDATED** |
| HEXACHLOROCYCLOPENTADIENE | 420 U | 450 U |
| HEXACHLOROETHANE | 420 U | 450 U |
| INDENO(1,2,3-CD)PYRENE | 420 U | 450 U |
| ISOPHORONE | 420 U | 450 U |
| N-NITROSO-DI-N-PROPYLAMINE | 420 U | 450 U |
| N-NITROSODIPHENYLAMINE | 420 U | 450 U |
| NAPHTHALENE | 420 U | 450 U |
| NITROBENZENE | 420 U | 450 U |
| PENTACHLOROPHENOL | 1000 U | 1100 U |
| PHENANTHRENE | 72 J | 140 J |
| PHENOL | 420 U | 450 U |
| PYRENE | 100 J | 180 J |
| **VOLATILES (ug/kg)** | | |
| 1,1,1-TRICHLOROETHANE | 13 U | 14 U |
| 1,1,2,2-TETRACHLOROETHANE | 13 U | 14 U |
| 1,1,2-TRICHLOROETHANE | 13 U | 14 U |
| 1,1-DICHLOROETHANE | 13 U | 14 U |
| 1,1-DICHLOROETHENE | 13 U | 14 U |
| 1,2-DICHLOROETHANE | 13 U | 14 U |
| 1,2-DICHLOROETHENE (TOTAL) | 13 U | 14 U |
| 1,2-DICHLOROPROPANE | 13 U | 14 U |
| 2-BUTANONE | 13 U | 14 U |
| 2-HEXANONE | 13 UJ | 14 UJ |
| 4-METHYL-2-PENTANONE | 13 U | 14 U |
| ACETONE | 13 U | 14 U |
| BENZENE | 13 U | 14 U |
| BROMODICHLOROMETHANE | 13 U | 14 U |
| BROMOFORM | 13 U | 14 U |
| BROMOMETHANE | 13 U | 14 U |
| CARBON DISULFIDE | 13 U | 14 U |
| CARBON TETRACHLORIDE | 13 U | 14 U |
| CHLOROBENZENE | 13 U | 14 U |
| CHLORODIBROMOMETHANE | 13 U | 14 U |
| CHLOROETHANE | 13 U | 14 U |
| CHLOROFORM | 13 U | 14 U |
| CHLOROMETHANE | 13 U | 14 U |
| CIS-1,3-DICHLOROPROPENE | 13 U | 14 U |
| ETHYLBENZENE | 13 U | 14 U |
| METHYLENE CHLORIDE | 13 U | 14 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| SAMPLE I.D.:<br>LOCATION:<br>SAMPLE DATE:<br>ASSOCIATED DUPLICATE:<br>VALIDATION STATUS: | PBSD1030001-D<br>PB SW/SD 103<br>01/26/99<br>PBSD1030001<br>VALIDATED | PBSD1040001<br>PB SW/SD 104<br>01/26/99<br><br>VALIDATED |
|---|---|---|
| STYRENE | 13 U | 14 U |
| TETRACHLOROETHENE | 13 U | 14 U |
| TOLUENE | 13 U | 14 U |
| TRANS-1,3-DICHLOROPROPENE | 13 U | 14 U |
| TRICHLOROETHENE | 13 U | 14 U |
| VINYL CHLORIDE | 13 U | 14 U |
| XYLENES, TOTAL | 13 U | 14 U |
| **PESTICIDES/PCBs (ug/kg)** | | |
| 4,4'-DDD | 4.2 U | 4.6 UJ |
| 4,4'-DDE | 4.2 U | 4.6 UJ |
| 4,4'-DDT | 4.2 U | 4.6 UJ |
| ALDRIN | 2.1 U | 2.3 UJ |
| ALPHA-BHC | 2.1 U | 2.3 UJ |
| ALPHA-CHLORDANE | 0.91 J | 0.41 R |
| AROCLOR-1016 | 42 U | 46 UJ |
| AROCLOR-1221 | 85 U | 91 UJ |
| AROCLOR-1232 | 42 U | 46 UJ |
| AROCLOR-1242 | 42 U | 46 UJ |
| AROCLOR-1248 | 42 U | 46 UJ |
| AROCLOR-1254 | 42 U | 46 UJ |
| AROCLOR-1260 | 29 J | 8.6 J |
| BETA-BHC | 2.1 U | 2.3 UJ |
| DELTA-BHC | 2.1 U | 2.3 UJ |
| DIELDRIN | 4.2 U | 4.6 UJ |
| ENDOSULFAN I | 2.1 U | 2.3 UJ |
| ENDOSULFAN II | 4.2 U | 4.6 UJ |
| ENDOSULFAN SULFATE | 4.2 U | 4.6 UJ |
| ENDRIN | 4.2 U | 4.6 UJ |
| ENDRIN ALDEHYDE | 4.2 U | 4.6 UJ |
| ENDRIN KETONE | 4.2 U | 4.6 UJ |
| GAMMA-BHC (LINDANE) | 2.1 U | 2.3 UJ |
| GAMMA-CHLORDANE | 0.89 R | 0.30 R |
| HEPTACHLOR | 2.1 U | 2.3 UJ |
| HEPTACHLOR EPOXIDE | 0.13 R | 2.3 UJ |
| METHOXYCHLOR | 21 U | 23 UJ |
| TOXAPHENE | 210 U | 230 UJ |
| **EXPLOSIVES (mg/kg)** | | |
| 1,3,5-TRINITROBENZENE | 0.25 U | 0.25 U |
| 1,3-DINITROBENZENE | 0.25 U | 0.25 U |

TABLE O-2

PAINT BRANCH
NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR SEDIMENT



| **SAMPLE I.D.:**<br>**LOCATION:**<br>**SAMPLE DATE:**<br>**ASSOCIATED DUPLICATE:**<br>**VALIDATION STATUS:** | **PBSD1030001-D**<br>**PB SW/SD 103**<br>**01/26/99**<br>**PBSD1030001**<br>**VALIDATED** | **PBSD1040001**<br>**PB SW/SD 104**<br>**01/26/99**<br><br>**VALIDATED** |
|---|---|---|
| 2,4 DINITROTOLUENE | 0.25 U | 0.25 U |
| 2,4,6-TRINITROTOLUENE | 0.25 U | 0.25 U |
| 2,6 DINITROTOLUENE | 0.25 U | 0.25 U |
| 2-AMINO-4,6-DINITROTOLUENE | 0.25 U | 0.25 U |
| 2-NITROTOLUENE | 0.25 U | 0.25 U |
| 3-NITROTOLUENE | 0.25 U | 0.25 U |
| 4-AMINO-2,6-DINITROTOLUENE | 0.25 U | 0.25 U |
| 4-NITROTOLUENE | 0.25 U | 0.25 U |
| HMX | 0.087 J | 0.5 U |
| NITROBENZENE | 0.25 U | 0.25 U |
| RDX | 0.5 U | 0.5 U |
| TETRYL | 0.65 U | 0.65 U |
| **MISCELLANEOUS PARAMETERS (mg/kg)** | | |
| TOTAL ORGANIC CARBON | 3100 J | 780 J |

# APPENDIX P

# ANALYTICAL DATA

# FIELD QC SAMPLES

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB111898 | TB113098 | TB120798 | TB121498 | TB121898 | TB010499 | TB011199 | TB011299 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 11/18/98 | 11/30/98 | 12/7/98 | 12/14/98 | 12/18/98 | 1/4/99 | 1/11/99 | 1/12/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **VOLATILES (µg/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| 1,2-DIBROMOETHANE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | 10 U | 10 U | 10 U | 10 U | 10 U | N/A | N/A |
| 1,2-DICHLOROPROPANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| 2-BUTANONE | 5 UR | 10 U | 10 U | 10 U | 10 U | 10 U | 5 UR | 5 UR |
| 2-HEXANONE | 5 UR | 10 U | 10 U | 10 U | 10 U | 10 U | 5 UR | 5 UR |
| 4-METHYL-2-PENTANONE | 5 U | 10 U | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U |
| ACETONE | 5 UR | 10 UJ | 10 UJ | 10 U | 10 U | 10 U | 5 UR | 5 UR |
| BENZENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| BROMOFORM | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| BROMOMETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CHLOROBENZENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CHLOROETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CHLOROFORM | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CHLOROMETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| DIBROMOCHLOROMETHANE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| ETHYLBENZENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 J | 2 J | 3 J | 4 J | 6 J | 3 J | 2.5 | 2.3 |
| STYRENE | 1 U | 10 U | 10 U | 0.4 J | 10 U | 10 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB111898 | TB113098 | TB120798 | TB121498 | TB121898 | TB010499 | TB011199 | TB011299 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 11/18/98 | 11/30/98 | 12/7/98 | 12/14/98 | 12/18/98 | 1/4/99 | 1/11/99 | 1/12/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED* |
| TETRACHLOROETHENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| TOLUENE | 1 U | 10 U | 1 J | 10 U | 10 U | 10 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| TRICHLOROETHENE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| VINYL CHLORIDE | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB011899 | TB011999 | TB011999B | TB012099 | TB012199 | TB012299 | TB012399 | TB012599 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 1/18/99 | 1/19/99 | 1/19/99 | 1/20/99 | 1/21/99 | 1/22/99 | 1/23/99 | 1/25/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| **VOLATILES (µg/L)** | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 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 |
| 1,1-DICHLOROETHENE | 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 |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | 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 |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 5 U | 5 U | 5 UR | 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 |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| ACETONE | 5 UR | 5 UR | 5 UR | 2.4 J | 2.2 J | 2.2 J | 1.9 J | 5 UR |
| BENZENE | 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 |
| BROMODICHLOROMETHANE | 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 |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 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 |
| CHLOROBENZENE | 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 |
| CHLOROFORM | 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 |
| CIS-1,2-DICHLOROETHENE | 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 |
| DIBROMOCHLOROMETHANE | 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 |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB011899 | TB011999 | TB011999B | TB012099 | TB012199 | TB012299 | TB012399 | TB012599 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 1/18/99 | 1/19/99 | 1/19/99 | 1/20/99 | 1/21/99 | 1/22/99 | 1/23/99 | 1/25/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TETRACHLOROETHENE | 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 |
| TRANS-1,2-DICHLOROETHENE | 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 |
| TRICHLOROETHENE | 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 |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB012699 | TB012799 | TB020199 | TB020999 | TB021099 | TB021199 | TB021299 | TB021699 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 1/26/99 | 1/27/99 | 2/1/99 | 2/9/99 | 2/10/99 | 2/11/99 | 2/12/99 | 2/16/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| VOLATILES (µg/L) | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 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 |
| 1,1,2-TRICHLOROETHANE | 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 |
| 1,1-DICHLOROETHENE | 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 |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 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 |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | 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 |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 2-BUTANONE | 5 U | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR | 5 UR |
| 2-HEXANONE | 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 |
| ACETONE | 5 UR | 5 UR | 1.8 J | 5 UR | 5 UR | 5 UR | 5 UR | 3 J |
| BENZENE | 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 |
| BROMODICHLOROMETHANE | 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 |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| CARBON DISULFIDE | 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 |
| CHLOROBENZENE | 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 |
| CHLOROFORM | 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 |
| CIS-1,2-DICHLOROETHENE | 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 |
| DIBROMOCHLOROMETHANE | 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 |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| STYRENE | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB012699 | TB012799 | TB020199 | TB020999 | TB021099 | TB021199 | TB021299 | TB021699 |
|---|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 1/26/99 | 1/27/99 | 2/1/99 | 2/9/99 | 2/10/99 | 2/11/99 | 2/12/99 | 2/16/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TETRACHLOROETHENE | 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 |
| TRANS-1,2-DICHLOROETHENE | 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 |
| TRICHLOROETHENE | 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 |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB021799 | TB021899 | TB021999 | TB022099 | TB022199 | TB022399 | TB022499 |
|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 2/17/99 | 2/18/99 | 2/19/99 | 2/20/99 | 2/21/99 | 2/23/99 | 2/24/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| VOLATILES (µg/L) | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,1,2,2-TETRACHLOROETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,1,2-TRICHLOROETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,1-DICHLOROETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,1-DICHLOROETHENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,2 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,2,4 TRICHLOROBENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 UR | 1 UR | 1 UR | 1.0 UR | 1.0 UR | 1 UR | 1 UR |
| 1,2-DIBROMOETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,2-DICHLOROETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,2-DICHLOROETHENE (TOTAL) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-DICHLOROPROPANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,3 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 1,4 DICHLOROBENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| 2-BUTANONE | 5 UR | 5 UR | 5 UR | 5.0 UR | 5.0 UR | 5 UR | 5 UR |
| 2-HEXANONE | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U | 5 U |
| 4-METHYL-2-PENTANONE | 5 U | 5 U | 5 U | 5.0 U | 5.0 U | 5 U | 5 U |
| ACETONE | 1.2 J | 2.2 J | 2.3 J | 5.0 UR | 5.0 UR | 2.5 J | 5 UR |
| BENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| BROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| BROMODICHLOROMETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| BROMOFORM | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| BROMOMETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CARBON DISULFIDE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CARBON TETRACHLORIDE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CHLOROBENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CHLOROETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CHLOROFORM | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CHLOROMETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CIS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| CIS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| DIBROMOCHLOROMETHANE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| ETHYLBENZENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| METHYLENE CHLORIDE | 2 U | 2 U | 2 U | 1.6 J | 1.7 J | 2 U | 1.8 J |
| STYRENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |

TABLE P-1

NSWC WHITE OAK
SILVER SPRING, MARYLAND
SUMMARY OF ANALYTICAL RESULTS FOR FIELD QC SAMPLES



| SAMPLE I.D.: | TB021799 | TB021899 | TB021999 | TB022099 | TB022199 | TB022399 | TB022499 |
|---|---|---|---|---|---|---|---|
| LOCATION: | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| SAMPLE DATE: | 2/17/99 | 2/18/99 | 2/19/99 | 2/20/99 | 2/21/99 | 2/23/99 | 2/24/99 |
| QC TYPE: | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK | TRIP BLANK |
| VALIDATION STATUS: | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED | VALIDATED |
| TETRACHLOROETHENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| TOLUENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| TRANS-1,2-DICHLOROETHENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| TRANS-1,3-DICHLOROPROPENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| TRICHLOROETHENE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| VINYL CHLORIDE | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |
| XYLENES, TOTAL | 1 U | 1 U | 1 U | 1.0 U | 1.0 U | 1 U | 1 U |

# APPENDIX Q

# DATA VALIDATION MEMORANDA

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-01-9-205**

| | | | |
|---|---|---|---|
| **TO:** | **R. KOTUN** | **DATE:** | **JANUARY 29, 1999** |
| **FROM:** | **TERRI L. SOLOMON** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION – CHEMICAL OXYGEN DEMAND, TOTAL ORGANIC CARBON, ACID-INSOLUBLE SULFIDE, BIOLOGICAL OXYGEN DEMAND, FERROUS IRON, pH, HEXAVALENT CHROMIUM**
**CTO 298-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – WO001**

**SAMPLES:** 7/Soils/

| | | | |
|---|---|---|---|
| 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 |
| 3SD1040001 | 4SS1030100 | 4SU1030200 | |

Overview

The sample set for CTO 298, NSWC Whiteoak, SDG WO001, consists of seven (7) soil environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for total organic carbon. Samples 4SS1030100 and 4SU1030200 were analyzed for acid-insoluble sulfide, biological oxygen demand, ferrous iron, total organic carbon, pH, hexavalent chromium and chemical oxygen demand. The samples were collected by Tetra Tech NUS on November 18 and 19, 1998 and analyzed by Quanterra - North Canton under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Total organic carbon analyses were performed using the Walkley-Black method. Acid-insoluble sulfide analyses were performed using SW-846 method 9030A. Biological oxygen demand analyses were performed using "Methods for Chemical Analysis of Water and Wastes" (MCAWW) method 405.1. Ferrous iron analyses were conducted using Standard Method 3500-FE D. PH analyses were performed using SW-846 method 9045C. Hexavalent chromium analyses were performed using SW-846 method 7196A. Chemical oxygen demand analyses were conducted using MCAWW 410.4.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, laboratory duplicate results, matrix spike / matrix spike duplicate recoveries, laboratory control sample (LCS) results, detection limits and analyte quantitation.

Areas of concern with respect to data quality are listed below.

Minor Problems

- The following contaminants were detected in the laboratory method blanks at the following maximum concentrations:

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| Hexavalent chromium | 0.60 mg/kg | 3.0 mg/kg |

Samples Affected: All

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample percent solids, aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for hexavalent chromium have been qualified, "B", as a result of blank contamination.

- The Matrix Spike / Matrix Spike Duplicate (MS/MSD) Percent Recoveries (%Rs) for acid-insoluble sulfide were <75% the quality control limit. The positive results and nondetects reported for the aforementioned parameter were qualified as biased low, "L" and "UL", respectively.

Notes

It should be noted that the chemical oxygen demand analyses were performed on leachate samples.

The MS/MSD %Rs for ferrous iron were < 30% quality control limit. However, no validation actions were required as the MS/MSD sample was not included within this SDG.

Laboratory duplicate imprecision (> 35%) was noted for the hexavalent chromium analysis. However, no validation actions were warranted as the sample results reported for hexavalent chromium were qualified as blank contamination.

Executive Summary

**Laboratory Performance:** Hexavalent chromium was present in the laboratory blank..

**Other Factors Affecting Data Quality:** The MS/MSD %Rs for sulfide were < 75% quality control limits.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-02-9-046**

**TO:** **R. KOTUN** **DATE:** **FEBRUARY 5, 1999**

**FROM:** **TERRI L. SOLOMON** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION - TAL METALS, CYANIDE, TOTAL DISSOLVED SOLIDS AND TOTAL SUSPENDED SOLIDS**
**CTO 298-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – WO002**

**SAMPLES:** 5/Aqueous/

3SW1000001 3SW1010001 3SW1020001 3SW1030001
3SW1040001

Overview

The sample set for CTO 298, NSWC White Oak, SDG WO002, consists of five (5) aqueous environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for Target Analyte List (TAL) metals, cyanide, total dissolved solids and total suspended solids. The samples were collected by Tetra Tech NUS on November 18, 1998 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. All analyses were conducted using Contract Laboratory (CLP) Statement of Work (SOW) ILMO4.0 analytical and reporting protocols.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, interference check samples (ICS), laboratory duplicate results, matrix spike recoveries, post digestion spike recoveries, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA. Cyanide, total dissolved solids and total suspended solids analyses were conducted using wet chemistry methods.

Areas of concern with respect to data quality are listed below.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for cadmium, copper, nickel, and zinc were > 110% quality control limit. The positive results < 2X CRDL reported for the aforementioned analytes were qualified as biased high, "K".

- The following contaminants were detected in the laboratory method/ preparation blanks at the following maximum concentrations:

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| aluminum | 94.4 ug/L | 47.2 ug/L |
| barium | 0.4 ug/L | 2.0 ug/L |
| beryllium | 0.5 ug/L | 2.5 ug/L |
| calcium [1] | 56.969 ug/L | 284.845 ug/L |
| cobalt | 0.7 ug/L | 3.5 ug/L |
| magnesium | 37.6 ug/L | 188 ug/L |
| potassium[1] | 210.667 ug/L | 1053.335 ug/L |
| selenium | 4.1 ug/L | 20.5 ug/L |
| sodium[1] | 336.067 ug/L | 1680.335 ug/L |
| thallium[1] | 6.179 ug/L | 30.895 ug/L |
| zinc | 4.6 ug/L | 23.0 ug/L |
| cyanide | 2.7 ug/L | 13.5 ug/L |

Samples Affected: All

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for aluminum, beryllium, cobalt, selenium, thallium, zinc and cyanide have been qualified, "B", as a result of blank contamination. No validation action was taken for the remaining analytes since the results were either greater than the action level or were nondetects.

Notes

The CRDL %Rs for antimony, arsenic, beryllium, chromium, cobalt, lead, manganese, selenium, silver, thallium and vanadium were > 110% quality control limit. However, no validation actions were warranted as all results were either qualified for blank contamination, > 2X CRDL or were nondetects.

The matrix spike percent recovery (%R) for selenium was > 125% quality control limit. However, no validation actions were warranted as all results reported for selenium were either nondetects or were qualified as blank contamination.

The post digestion spike %R for selenium was > 125% quality control limit. However, no validation actions were required as per Region III guidance.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were > 90% quality control limits. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-02-9-079**

**TO :** **R. KOTUN** **DATE:** **FEBRUARY 8, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **MISCELLANEOUS DATA VALIDATION –AMMONIUM PERCHLORATE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – 9812170**

**SAMPLES:** 1/Aqueous/

PERCHORATE 9TW001

Overview

The sample set for SDG 9812170, NSWC White Oak, consists of one (1) aqueous environmental sample.

The sample was analyzed for ammonium perchlorate. The sample was collected by Tetra Tech NUS on December 21, 1998 and analyzed by GPL Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Ammonium perchlorate analyses were conducted using Ion Chromatography.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, matrix spike results, laboratory duplicate results, detection limits and analyte quantitation.

Areas of concern with respect to data quality are listed below.

Major Problems

- None

Minor Problems

- None.

Executive Summary

**Laboratory Performance:** None.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-02-9-218**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **MARCH 1, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, PH, ACID-INSOLUBLE SULFIDE, BOD, COD, FERROUS IRON, TOC AND HEXAVALENT CHROMIUM**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO004**

**SAMPLES:** 2/Aqueous/

RB0001 RB0002

14/Soils/

| | | |
|---|---|---|
| 02SS1000100 | 02SS1010100 | 02SS1020100 |
| 02SS1030100 | 02SS1040100 | 02SS1050100 |
| 02SS1060100 | 02SS1070100 | 02SS1080100 |
| 02SS1090100 | 02SU1000800 | 7SS1040100 |
| 7SU1040200 | 7SU1050200 | |

Overview

The sample set for SDG WO004, NSWC White Oak, consists of fourteen (14) soil environmental samples and two (2) rinsate blanks (RB0001 and RB0002).

All samples were analyzed for target analyte list (TAL) metals and cyanide. Samples RB0001, RB0002, 02SS1040100 and 02SS1050100 were also analyzed for pH, acid-insoluble sulfide, biochemical oxygen demand (BOD), chemical oxygen demand (COD), ferrous iron, total organic carbon (TOC) and hexavalent chromium. The samples were collected by Tetra Tech NUS on November 23, 24 and 30, 1998 and analyzed by Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM04.0 methodology. pH analyses were conducted using MCAWW EPA method 150.1. Acid-insoluble sulfide analyses were conducted using SW 846 method 9030A. BOD analyses were conducted using MCAWW EPA method 405.1. COD analyses were conducted using MCAWW EPA method 410.4. Ferrous iron analyses were conducted using MS18 method 3500-FE D. Hexavalent chromium analyses were conducted using SW 846 method 7496A.

Summary

All analytes, with exception to those qualified as "UR", were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike

recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

- The holding time for acid-insoluble sulfide was exceeded by twenty (20) days affecting samples RB0001 and RB0002. The nondetected results reported for acid-insoluble sulfide in the affected samples were qualified as rejected, "UR".

- The Initial Calibration Verification (ICV) for cyanide analyzed on December 11 was <70% quality control limit affecting samples 02SS1010100, 2SS1020100 and 02SS1030100. The nondetected results reported for cyanide in the affected samples were qualified as rejected, "UR".

Minor Problems

- The holding time for pH was marginally exceeded affecting sample RB0001 and RB0002. The results reported for pH in the affected samples were qualified as biased low, "L".

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for arsenic was >110% quality control limit. The positive results <2X CRDL reported for arsenic were qualified as biased high, "K".

- The CRDL %R for selenium was <90% quality control limit. The positive results <2X CRDL and the nondetected results reported for selenium were qualified as biased low, "L" and "UL", respectively.

- The Initial Calibration Verifications (ICVs) for cyanide analyzed on December 11 and 16 were <85% quality control limit affecting samples 02SS1040100, 02SS1050100, 02SS1060100, 02SS1070100, 02SS1080100 and 02SS1090100. The nondetected results reported for cyanide in the affected samples were qualified as biased low, "UL".

- The following contaminants were detected in the laboratory method / preparation / rinsate blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (soil) | Action Level(aqueous) |
|---|---|---|---|
| Aluminum(1) | 14.631 mg/kg | 73.155 mg/kg | NA |
| Antimony | 4.9µg/L | 4.9 mg/kg | NA |
| Barium | 1.0µg/L | NA | 5.0µg/L |
| Barium (1) | 0.210 mg/kg | 1.05 mg/kg | NA |
| Beryllium | 1.1µg/L | 1.1 mg/kg | 5.5µg/L |
| Cadmium | 0.4µg/L | 0.4 mg/kg | 2.0µg/L |
| Calcium | 107.5µg/L | NA | 537.5µg/L |
| Calcium(1) | 50.997 mg/kg | 254.985 mg/kg | NA |
| Chromium(1) | 0.330 mg/kg | 1.65 mg/kg | NA |

| | | | |
|---|---|---|---|
| Cobalt | 0.8µg/L | 0.8 mg/kg | NA |
| Iron | 46.0µg/L | NA | 230µg/L |
| Iron[1] | 36.727 mg/kg | 183.635 mg/kg | NA |
| Lead[1] | 0.403 mg/kg | 2.015 mg/kg | NA |
| Magnesium | 107.0µg/L | NA | 535µg/L |
| Magnesium[1] | 30.785 mg/kg | 153.925 mg/kg | NA |
| Manganese[1] | 0.740 mg/kg | 3.7 mg/kg | NA |
| Manganese[3] | 0.935µg/L | NA | 4.675µg/L |
| Potassium | 65.9µg/L | 65.9 mg/kg | NA |
| Sodium | 195.0µg/L | 195.0 mg/kg | 975µg/L |
| Vanadium | 1.1µg/L | 1.1 mg/kg | 5.5µg/L |
| Zinc[1] | 3.90 mg/kg | 19.5 mg/kg | NA |
| Cyanide[2] | 11.4µg/L | 2.85 mg/kg | NA |
| Hexavalent Chromium[1] | 0.60 mg/kg | 3.0 mg/kg | NA |

(1) Maximum concentration found in a soil preparation blank.
(2) Maximum concentration found in a rinsate blank.
(3 Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for antimony, barium, beryllium, cadmium, calcium, iron, magnesium, manganese, sodium, vanadium, zinc and cyanide were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The interfering analyte iron was present in samples 02SS1040100 and 02SU1000800 at a concentration which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely antimony, arsenic, barium, cadmium, chromium, cobalt, copper, nickel, potassium, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for arsenic and selenium in the affected samples. The positive results reported for arsenic were qualified as biased high, "K". The nondetected results reported for selenium were qualified as biased low, "UL".

- The Matrix Spike (MS) Percent Recoveries (%Rs) for antimony, selenium and ferrous iron affecting the soil matrix were <75% quality control limit. The positive results reported for selenium in the affected samples were qualified as biased low, "L". The nondetected results reported for antimony, selenium and ferrous iron in the affected samples were qualified as biased low, "UL".

- Laboratory duplicate imprecision (>20%) was noted for BOD affecting the aqueous matrix. The positive results reported for BOD in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

- Laboratory duplicate imprecision (>35%) was noted for hexavalent chromium affecting the soil matrix. The nondetected results reported for hexavalent chromium in the affected samples were qualified as estimated, "UJ". The direction of bias could not be determined.

- The Laboratory Control Samples (LCS) Percent Recovery (%R) for BOD affecting the soil matrix was <80% quality control limit. The nondetected results reported for BOD in the affected samples were qualified as biased low, "L".

- The ICP Serial Dilution Percent Differences (%Ds) for calcium, chromium, iron, manganese and zinc affecting the soil matrix were >10% quality control limit. The positive results reported for calcium, chromium, iron, manganese and zinc in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %Rs for thallium and zinc were >110% quality control limit. However, no validation action was required as all results reported for thallium were nondetects and all results reported for zinc were >2X CRDL.

The LCS %R for cyanide affecting the soil matrix was >120% quality control limit. However, no validation action was required as all results reported for cyanide in the affected samples were nondetects.

The reporting limits for cyanide in the metals fraction and in the general chemistry fraction were inconsistent. The IDL was used for the reporting limit in the metals fraction and was therefore used for validation.

The ICV %R and Laboratory Control Sample (LCS) %R affecting the cyanide analyses of samples 02SS1060100, 02SS1070100, 02SS1080100 and 02SS1090100 were outside the quality control limits. The laboratory reanalyzed the samples twenty-nine (29) days outside on holding time. The original analyses were used for validation purposes.

Executive Summary

**Laboratory Performance:** The holding times for several miscellaneous parameters were exceeded. The ICV %Rs for cyanide analyzed on December 11 and 16 were <90% quality control limit. The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method / preparation / rinsate blanks.

**Other Factors Affecting Data Quality:** The interfering analyte iron was present in samples 02SS1040100 and 02SU1000800. The MS %Rs for ferrous iron, antimony and selenium affecting the soil matrix were <75% quality control limit. Laboratory duplicate imprecision was noted for BOD affecting the aqueous matrix and hexavalent chromium affecting the soil matrix. The LCS %R for BOD affecting the soil matrix was <80% quality control limit. ICP Serial Dilution %Ds for several analytes affecting the soil matrix were >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-045**

**TO:** **R. KOTUN** **DATE:** **MARCH 5, 1999**

**FROM:** **TERRI L. SOLOMON** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION - TAL METALS, CYANIDE, TOTAL DISSOLVED SOLIDS AND TOTAL SUSPENDED SOLIDS**
**CTO 298-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – WO012**

**SAMPLES:** 20/Aqueous/

| | | | |
|---|---|---|---|
| 11SW1020001 | 11SW1030001 | 2SW1000001 | 2SW1010001 |
| 2SW1020001 | 2SW1030001 | 2SW1040001 | 2SW1050001 |
| 2SW1060001 | 2SW1070001 | 2SW1080001 | 2SW1090001 |
| 2SW1090002 | 2SW1100001 | 2SW1110001 | 2SW1120001 |
| 2SW1130001 | 9SW1060001 | 9SW1070001 | 9SW1080001 |

Overview

The sample set for CTO 298, NSWC White Oak, SDG WO012, consists of twenty (20) aqueous environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for Target Analyte List (TAL) metals, cyanide, total dissolved solids and total suspended solids. The samples were collected by Tetra Tech NUS on January 18 and 19, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. All metals and cyanide analyses were conducted using Contract Laboratory (CLP) Statement of Work (SOW) ILMO4.0 analytical and reporting protocols. Total dissolved solids analyses were conducted using "Methods for Chemical Analysis of Water and Wastes" (MCAWW) EPA method 160.1. Total suspended solids analyses were conducted using MCAWW EPA method 160.2.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, interference check samples (ICS), laboratory duplicate results, matrix spike recoveries, post digestion spike recoveries, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA. Cyanide, total dissolved solids and total suspended solids analyses were conducted using wet chemistry methods.

Areas of concern with respect to data quality are listed below.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for antimony, nickel and selenium were < 90% quality control limit. The positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The CRDL %R for zinc was > 110% quality control limit. The positive results < 2X CRDL reported for the aforementioned analyte were qualified as biased high, "K".

- The following contaminants were detected in the laboratory method/ preparation blanks at the following maximum concentrations:

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| aluminum | 56.8 ug/L | 284 ug/L |
| arsenic | 1.6 ug/L | 8.0 ug/L |
| barium | 1.4 ug/L | 7.0 ug/L |
| beryllium | 1.3 ug/L | 6.5 ug/L |
| calcium | 50.1 ug/L | 250.5 ug/L |
| chromium | 2.7 ug/L | 13.5 ug/L |
| copper | 3.6 ug/L | 18.0 ug/L |
| iron | 26.6 ug/L | 133 ug/L |
| magnesium | 50.2 ug/L | 251 ug/L |
| manganese | 1.9 ug/L | 9.5 ug/L |
| potassium | 420.2 ug/L | 2101 ug/L |
| silver | 3.6 ug/L | 18.0 ug/L |
| sodium[1] | 72.710 ug/L | 363.55 ug/L |
| vanadium | 3.6 ug/L | 18.0 ug/L |

Samples Affected: All

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for aluminum, arsenic, chromium, copper, iron, manganese, silver and vanadium have been qualified, "B", as a result of blank contamination. No validation action was taken for the remaining analytes since the results were either greater than the action level or were nondetects.

- Laboratory duplicate imprecision (> 20%) was noted for iron. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

Notes – None.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limits. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** Laboratory duplicate imprecision was noted for iron.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-096**

**TO:** **R. KOTUN** **DATE:** **MARCH 12, 1999**

**FROM:** **TERRI L. SOLOMON** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION – CHEMICAL OXYGEN DEMAND, TOTAL ORGANIC CARBON, ACID-INSOLUBLE SULFIDE, BIOLOGICAL OXYGEN DEMAND, FERROUS IRON, pH, HEXAVALENT CHROMIUM**
**CTO 298-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – WO005**

**SAMPLES:** 3/Soils/

02SS1170100 02SS1170300 02SS1180100

Overview

The sample set for CTO 298, NSWC Whiteoak, SDG WO005, consists of three (3) soil environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for acid-insoluble sulfide, biological oxygen demand, ferrous iron, total organic carbon, pH, hexavalent chromium and chemical oxygen demand. The samples were collected by Tetra Tech NUS on November 30, 1998 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Total organic carbon analyses were performed using the Walkley-Black method. Acid-insoluble sulfide analyses were performed using SW-846 method 9030A. Biological oxygen demand analyses were performed using "Methods for Chemical Analysis of Water and Wastes" (MCAWW) EPA method 405.1. Ferrous iron analyses were conducted using Standard Method 3500-FE D. PH analyses were performed using SW-846 method 9045C. Hexavalent chromium analyses were performed using SW-846 method 7196A. Chemical oxygen demand analyses were conducted using MCAWW EPA method 410.4.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, laboratory duplicate results, matrix spike / matrix spike duplicate recoveries, laboratory control sample (LCS) results, detection limits and analyte quantitation.

Areas of concern with respect to data quality are listed below.

Minor Problems

- The following contaminants were detected in the laboratory method blanks at the following maximum concentrations:

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| Hexavalent chromium | 0.60 mg/kg | 3.0 mg/kg |

Samples Affected: All

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample percent solids, aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for hexavalent chromium have been qualified, "B", as a result of blank contamination.

- The matrix spike duplicate (MSD) percent recovery (%R) for ferrous iron was <75% the quality control limit. The nondetected results reported for the aforementioned parameter were qualified as biased low, "UL".

- The laboratory control sample (LCS) %R for the biological oxygen demand analysis was <80% the quality control limit. The nondetected results reported for the aforementioned parameter were qualified as biased low, "UL".

Notes

It should be noted that the chemical oxygen demand analyses were performed on leachate samples.

Laboratory duplicate imprecision (> 35%) was noted for the hexavalent chromium analysis. However, no validation actions were warranted as the positive sample results reported for hexavalent chromium were qualified as blank contamination.

Executive Summary

**Laboratory Performance:** Hexavalent chromium was present in the laboratory blank.

**Other Factors Affecting Data Quality:** The MSD %R for ferrous iron was < 75% quality control limits. The LCS %R for the biological oxygen demand analyses was < 80% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MARCH 15, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |
| **SUBJECT:** | **ORGANIC DATA VALIDATION- VOA/SVOA/PEST<br>CTO 298, NSWC WHITE OAK, MD<br>SDG 9812171** | | |
| **SAMPLES:** | 1/Leachate/<br>WASTE TANK | | |

OVERVIEW

The sample set for CTO 298, SDG9812171, NSWC White Oak, MD consists of one (1) leachate sample. The sample was analyzed for RCRA volatile, semivolatile and pesticide compounds. No field duplicate pairs were included in the SDG.

The sample was collected by TetraTech NUS on December 22nd, 1998 and analyzed by Quanterra Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 1311, 8260B, 8270C, and 8081A analytical and reporting protocols.

All samples were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, GC/MS tuning and system performance, initial/continuing calibrations, laboratory method and field quality control blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, internal standard performance, tentatively identified compounds, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- Initial and continuing calibration relative response factors (RRFs) were below the 0.05 quality control limit for 2-butanone. The nondetected result was rejected, UR.

Minor Problems

- Surrogate recovery fell below the 60% quality control limit for all four surrogates in the sample. Nondetected results were qualified as biased low, UL.

Notes

The laboratory reported 1,4-dichlorobenzene in both the volatile and semivolatile fraction. The volatile result was eliminated from the electronic deliverable as the semivolatile result had the lower reporting limit.

The volatile fraction was analyzed at a 10X dilution factor. Surrogate recovery for toluene-d8 was slightly below the lower quality control limit. No qualifiers were assigned on this basis.

The initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for 2-butanone. Since 2-butanone results were rejected to RRF noncompliance no other qualifiers were assigned.

A continuing calibration percent difference (%D) exceeded the 25% but was lower than 50% for vinyl chloride. Since the compound was not detected in the sample, no qualifiers were assinged on this basis.

Volatile and matrix spike recoveries exceeded the upper and lower quality control limits for several compounds. As the compounds were not detected in the sample, no qualifiers were assigned on this basis.

Semivolatile blank spike recoveries exceeded the upper quality control limit for several compounds. As the compounds were not detected in the sample, no qualifiers were assigned on this basis.

Endrin degradation and Endrin/DDT combined degradation exceed the 20% and 30% quality control limits. As the compounds and their breakdown products were not detected in the samples, no qualifiers were assigned on this basis.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:** 2-Butanone failed to meet the initial and continuing calibration RRF criteria in the volatile fraction. Surrogate recoveries in the pesticide fraction failed to meet quality control limits.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-155**

**TO :** **R. KOTUN** **DATE:** **MARCH 23, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS, CYANIDE, TOTAL DISSOLVED SOLIDS AND TOTAL SUSPENDED SOLIDS CTO 298 – NSWC WHITE OAK, MD SAMPLE DELIVERY GROUP SDG – WO014**

**SAMPLES:** 11/Aqueous/

| | | |
|---|---|---|
| 7GW080001 | 7GW080001-F | 7GW1010001 |
| 7GW1010001-F | 7GW1040001 | 7GW1040001-F |
| 7GW420001 | 7GW420001-F | 7GW430001 |
| 7GW430001-F | PBSW1040001 | |

Overview

The sample set for SDG WO014, NSWC White Oak, consists of eleven (11) aqueous environmental samples.

All samples, with exception to those designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F, were analyzed for dissolved TAL metals. Sample PBSW1040001 was also analyzed for total dissolved solids (TDS) and total suspended solids (TSS). The samples were collected by Tetra Tech NUS on January 26 and 27 and February 1, 1999 and analyzed Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology. TDS analyses were conducted using MCAWW EPA method 160.1. TSS analyses were conducted using MCAWW EPA method 160.2.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for chromium and zinc were >110% quality control limit. The positive results <2X CRDL reported for chromium and zinc were qualified as biased high, "K".

- The CRDL %R for selenium was <90% quality control limit. The nondetected results reported for selenium were qualified as biased low, "UL".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 92.2µg/L | 461µg/L |
| Antimony | 22.6µg/L | 113µg/L |
| Barium | 1.6µg/L | 8.0µg/L |
| Beryllium | 1.5µg/L | 7.5µg/L |
| Cadmium | 3.6µg/L | 18.0µg/L |
| Calcium | 78.2µg/L | 391µg/L |
| Chromium | 3.1µg/L | 15.5µg/L |
| Cobalt | 3.9µg/L | 19.5µg/L |
| Copper | 2.5µg/L | 12.5µg/L |
| Iron | 41.5µg/L | 207.5µg/L |
| Magnesium | 84.6µg/L | 423µg/L |
| Manganese | 2.2µg/L | 11.0µg/L |
| Potassium | 667.4µg/L | 3337µg/L |
| Silver | 4.1µg/L | 20.5µg/L |
| Sodium (1) | 29.410µg/L | 147.05µg/L |
| Vanadium | 2.6µg/L | 13.0µg/L |
| Zinc | 2.3µg/L | 11.5µg/L |

(1) Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, antimony, beryllium, cadmium, chromium, cobalt, copper, iron, potassium, silver and vanadium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

The ICP Serial Dilution Percent Difference (%D) for iron affected filtered samples was >10% quality control limit. The positive and nondetected results reported for iron in the affected samples were qualified as estimated, "J" and "UJ", respectively.

Notes

The CRDL %Rs for antimony, cadmium and silver were >110% quality control limit. However, no validation action was required as all results reported for antimony, cadmium and silver were either nondetected or qualified as a result of blank contamination.

The Matrix Spike (MS) Percent Recovery (%R) for cyanide was 0%. However, no validation action was taken as the sample used for the MS was not a sample from the White Oak site.

The following sample IDs were changes: 7GW101 to 7GW1010001 and 7GW08 to 7GW080001.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The ICP Serial Dilution %D for iron affecting the filtered samples was >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-134**

**TO :** **R. KOTUN** **DATE:** **MARCH 25, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO018**

**SAMPLES:** 28/Aqueous/

| | | |
|---|---|---|
| 11GW1050001 | 11GW1060001 | 11GW1060001-F |
| 11GW1069901 | 11GW1069901-F | 11GW1070001 |
| 11GW1080001 | 11GW1090001 | 11GW1100001 |
| 11GW240001 | 11GW240001-F | 11GW280001 |
| 11GW290001 | 11GW290001-F | 11GW620001 |
| 11GW630001 | 11GW630001-F | 11GW650001 |
| 11GW690001 | 11GW690001-F | 11GW70D0001 |
| 11GW70D0001-F | 11GW720001 | 11GW720001-F |
| 11GW850001 | 11GW880001 | 2GW1000001 |
| 2GW1009901 | | |

Overview

The sample set for SDG WO018, NSWC White Oak, consists of twenty-eight (28) aqueous environmental samples. Three (3) field duplicate pairs (11GW1060001/11GW1069901, 11GW1060001-F /11GW1069901-F and 2GW1000001/2GW1009901) were included within this SDG.

All samples, with exception to those designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F, were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 6-9, 1999 and analyzed Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for cadmium, copper and iron were <90% quality control limit. The positive results <2X CRDL and the nondetected results reported for cadmium, copper and iron were qualified as biased low, "L" and "UL", respectively.

- The CRDL %R for lead was >110% quality control limit. The positive results <2X CRDL reported for lead were qualified as biased high, "K".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 65.5µg/L | 327.5µg/L |
| Barium | 1.0µg/L | 5.0µg/L |
| Beryllium | 0.8µg/L | 4.0µg/L |
| Cadmium | 3.1µg/L | 15.5µg/L |
| Calcium | 104.2µg/L | 521µg/L |
| Chromium | 3.3µg/L | 16.5µg/L |
| Magnesium | 72.2µg/L | 361µg/L |
| Manganese | 1.4µg/L | 7.0µg/L |
| Potassium | 586.4µg/L | 2932µg/L |
| Selenium | 3.7µg/L | 18.5µg/L |
| Sodium[1] | 33.200µg/L | 166µg/L |
| Thallium | 3.5µg/L | 17.5µg/L |
| Vanadium | 2.5µg/L | 12.5µg/L |
| Zinc | 2.5µg/L | 12.5µg/L |

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, beryllium, cadmium, chromium, manganese, potassium, selenium, thallium, vanadium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The interfering analyte iron was present in sample 11GW690001 at a concentration which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely barium, cadmium, cobalt, copper, lead, manganese, selenium, silver, sodium, thallium and vanadium were present in the ICS solution at concentration which exceeded the Instrument Detection Limit (IDL). Interference affects exist for silver in the affected sample. The nondetected result reported for silver was qualified as biased low, "UL".

Notes

The CRDL %R for selenium was >110% quality control limit. However, no validation action was required as all results reported for selenium were either nondetected or were qualified, "B", as a result of blank contamination.

A comparison of field duplicate pairs (11GW1060001/11GW1069901, 11GW1060001-F /11GW1069901-F and 2GW1000001/2GW1009901) is included in Appendix C. However, no validation action is required per regional guidance.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The interfering analyte iron was present in samples 11GW690001.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-046**

**TO :** **R. KOTUN** **DATE:** **MARCH 25, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, PH, ACID-INSOLUBLE SULFIDE, BOD, COD, FERROUS IRON, TOC AND HEXAVALENT CHROMIUM**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO008**

**SAMPLES:** 3/Aqueous/

| | | |
|---|---|---|
| RB003 | RB004 | RB005 |

13/Soils/

| | | |
|---|---|---|
| 8SS1000100 | 8SS1010100 | 8SS1020100 |
| 8SS1030100 | 8SS1040100 | 8SS1050100 |
| 8SU1000200 | 8SU1010200 | 8SU1020200 |
| 8SU1030200 | 8SU1030300 | 8SU1040200 |
| 8SU1050200 | | |

Overview

The sample set for SDG WO008, NSWC White Oak, consists of thirteen (13) soil environmental samples. Three (3) rinsate blanks (RB003, RB004 and RB005) were included within this SDG.

All samples were analyzed for target analyte list (TAL) metals and cyanide. Samples RB003, RB004, RB005, 8SU1010200, 8SU1020200 and 8SU1050200 were also analyzed for pH, acid-insoluble sulfide, biochemical oxygen demand (BOD), chemical oxygen demand (COD), ferrous iron, total organic carbon (TOC) and hexavalent chromium. The samples were collected by Tetra Tech NUS on January 4, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM04.0 methodology. pH analyses were conducted using MCAWW EPA method 150.1/6045C. Acid-insoluble sulfide analyses were conducted using SW 846 method 9030A. BOD analyses were conducted using MCAWW EPA method 405.1. COD analyses were conducted using MCAWW EPA method 410.4. Ferrous iron analyses were conducted using SM18 method 3500-FE D. Hexavalent chromium analyses were conducted using SW 846 method 7196A. TOC analyses were conducted using MCAWW EPA method 415.1 and the Walkley-Black method.

Summary

All analytes, with exception to those qualified as "UR", were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation

blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

- The MS %R for antimony affecting the soil matrix was <30% quality control limit. The nondetected results reported for antimony in the affected samples were qualified as rejected, "UR".

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for aluminum was <50% quality control limit. The nondetected results reported for aluminum were qualified as rejected, "UR".

Minor Problems

- The holding time for TOC affecting the aqueous samples was exceeded by twelve (12) days. The nondetected results reported were qualified as biased low, "UL".

- The holding time for pH affecting the aqueous samples was marginally exceeded. The positive results reported for pH in the affected samples were qualified as biased low, "L".

- The holding time for acid-insoluble sulfide affecting the aqueous samples was exceeded by twenty-eight (28) days. The positive results reported for acid-insoluble sulfide were qualified as biased extremely low, "L".

- The holding time for BOD from collection to preparation was exceeded by one (1) day affecting the aqueous matrix. The nondetected results reported for BOD were qualified as biased low, "UL".

- The holding time for ferrous iron was marginally exceeded affecting all samples. The nondetected results reported for ferrous iron were qualified as biased low, "UL".

- The holding time for hexavalent chromium affecting the aqueous samples was exceeded by one (1) day. The nondetected results reported for hexavalent chromium in the affected samples were qualified as biased low, "UL".

- The Initial Calibration Verification (ICV) for cyanide affecting the aqueous matrix was <90% quality control limit. The nondetected results reported for cyanide in the affected samples were qualified as biased low, "UL".

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for selenium was <90% quality control limit. The positive and nondetected results reported for selenium were qualified as biased low, "L" and "UL", respectively.

- The following contaminants were detected in the laboratory method / preparation / rinsate blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (soil) | Action Level(aqueous) |
|---|---|---|---|
| Aluminum | 92.6µg/L | 92.6 mg/kg | 463µg/L |
| Arsenic | 3.3µg/L | 3.3 mg/kg | NA |
| Barium | 0.7µg/L | NA | 3.5µg/L |
| Barium(1) | 1.3µg/L | 1.3 mg/kg | NA |
| Beryllium | 0.5µg/L | 0.5 mg/kg | NA |
| Cadmium | 0.3µg/L | 0.3 mg/kg | NA |
| Calcium | 90.4µg/L | 90.4 mg/kg | 452µg/L |
| Cobalt(1) | 0.81µg/L | 0.81 mg/kg | NA |
| Copper (1) | 4.0µg/L | 4.0 mg/kg | NA |
| Iron(1) | 47.4µg/L | 47.4 mg/kg | NA |
| Iron(3) | 38.189µg/L | NA | 190.94µg/L |
| Magnesium | 67.5µg/L | 67.5 mg/kg | 337.5µg/L |
| Manganese(2) | 0.144 mg/kg | 0.72 mg/kg | NA |
| Manganese(3) | 1.329µg/L | NA | 6.645µg/L |
| Potassium | 39.8µg/L | 39.8 mg/kg | NA |
| Selenium(1) | 3.2µg/L | 3.2 mg/kg | NA |
| Silver | 0.7µg/L | 0.7 mg/kg | NA |
| Thallium | 8.8µg/L | 8.8 mg/kg | 44µg/L |
| Vanadium | 0.6µg/L | 0.6 mg/kg | NA |

(1) Maximum concentration found in a rinsate blank.
(2) Maximum concentration found in a soil preparation blank.
(3) Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, arsenic, barium, beryllium, cadmium, calcium, iron, magnesium, manganese, selenium silver and thallium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects. It should be noted that field quality control samples are not qualified for field blank contamination.

- The interfering analyte calcium was present in sample 8SS1000100 at a concentration which was comparable to the level of calcium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, sodium, thallium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for cobalt, copper and sodium in the affected sample. The positive results reported for cobalt and copper were qualified as biased high, "K". The positive result reported for sodium was qualified as biased low, "L".

- The interfering analytes calcium and magnesium present in sample 8SU1000200 at concentrations which were comparable to the levels of calcium and magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, sodium, thallium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument

Detection Limit (IDL). Interference affects exist for barium, cadmium, lead and sodium in the affected sample. The positive result reported for barium was qualified as biased high, "K". The nondetected result reported for cadmium was qualified as biased low, "UL". The positive result reported for lead was qualified as estimated, "J", as a result of conflicting noncompliances. The positive result reported for sodium was qualified as biased low, "L".

- The Matrix Spike (MS) Percent Recovery (%R) for mercury affecting the soil matrix was <75% quality control limit. The positive and nondetected results reported for mercury in the affected samples were qualified as biased low, "L" and "UL", respectively.

- The MS %R for lead affecting the soil matrix was >125% quality control limit. The positive results reported for lead in the affected samples were qualified as biased high, "K", or estimated, "J", as a result of conflicting noncompliances.

- Laboratory duplicate imprecision (>35%) was noted for aluminum affecting the soil matrix. The positive results reported for aluminum in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

- The Laboratory Control Sample (LCS) Percent Recovery (%R) for BOD affecting all samples was <80% quality control limit. The positive and nondetected results reported for BOD were qualified as biased low, "L" and "UL", respectively.

- The ICP Serial Dilution Percent Difference (%D) for calcium affecting the soil matrix was >10% quality control limit. The positive results reported for calcium in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %Rs for lead, thallium and zinc were outside the 90-110% quality control limit. However, no validation action was required as all results reported for lead, thallium and zinc were either >2X CRDL or nondetects.

The MS %R for hexavalent chromium was <30% quality control limit. However, no validation action was required as the affected samples exhibited reducing conditions.

The reporting limits for cyanide in the metals fraction and in the general chemistry fraction were inconsistent. The IDL was used for the reporting limit in the metals fraction and was therefore used for validation.

Executive Summary

**Laboratory Performance:** The holding times for pH, BOD, ferrous iron and hexavalent chromium were exceeded. The ICV %R for cyanide affecting the aqueous matrix was <90% quality control limit. The CRDL %R for selenium was <90% quality control limit. The CRDL %R for aluminum was <50% quality control limit. Several analytes were present in the laboratory method / preparation / rinsate blanks.

**Other Factors Affecting Data Quality:** The holding times for acid-insoluble sulfide and TOC were exceeded. The interfering analytes calcium and/or magnesium were present in two samples. The MS %Rs for antimony, mercury and lead affecting the soil matrix were outside the 75-125% quality control limit. Laboratory duplicate imprecision (>35%) was noted for aluminum affecting the soil matrix. The LCS %R for BOD was <80% quality control limit. ICP Serial Dilution %D for calcium affecting the soil matrix was >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-058**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **MARCH 25, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS, CYANIDE, TOTAL DISSOLVED SOLIDS, TOTAL SUSPENDED SOLIDS**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO013**

**SAMPLES:** 31/Aqueous/

| | | |
|---|---|---|
| 7GW1020001 | 7GW1020001-F | 7GW1029901 |
| 7GW1029901-F | 7GW1030001 | 7GW1030001-F |
| 7GW1050001 | 7GW410001 | 7GW410001-F |
| 7GW419901 | 7GW419901-F | 8GW330001 |
| 8GW330001-F | 8GW340001 | 8GW34001-F |
| 8GW350001 | 8GW350001-F | 8GW360001 |
| 8GW360001-F | 8GW530001 | 8GW530001-F |
| 8GWB10001 | 8GWB10001-F | PBSW1000001 |
| PBSW1000002 | PBSW1010001 | PBSW1010002 |
| PBSW1020001 | PBSW1030001 | PBSW1030002 |
| TAPWATER-01 | | |

Overview

The sample set for SDG WO013, NSWC White Oak, consists of thirty (30) aqueous environmental samples. Four (4) field duplicate pairs (7GW1020001/7GW1029901, 7GW1020001-F/7GW1029901-F, 7GW410001/7GW419901 and 7GW410001-F/7GW419901-F) and one field blank (TAPWATER-01) were included within this SDG.

All samples, with exception to those designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F were analyzed for dissolved TAL metals. Samples PBSW1000001, PBSW1000002, PBSW1010001, PBSW1010002, PBSW1020001, PBSW1030001 and PBSW1030002 were also analyzed for total dissolved solids (TDS) and total suspended solids (TSS). The samples were collected by Tetra Tech NUS on January 20-23, 25 and 26, 1999 and analyzed Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM04.0 methodology. TDS solids analyses were conducted using MCAWW EPA method 160.1. TSS analyses were conducted using MCAWW EPA method 160.2.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field

duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for cadmium and silver were <90% quality control limit. The nondetected results reported for cadmium and silver were qualified as biased low, "UL".

- The CRDL %Rs for selenium were both above and below the 90-110% quality control limit. The positive results <2X CRDL and nondetected results reported for selenium were qualified as estimated, "J" and "UJ", respectively. The direction of bias could not be determined.

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 27.9µg/L | 139.5µg/L |
| Barium | 0.8µg/L | 4.0µg/L |
| Beryllium | 0.8µg/L | 4.0µg/L |
| Calcium | 24.8µg/L | 124µg/L |
| Copper | 3.0µg/L | 15.0µg/L |
| Iron | 65.8µg/L | 329µg/L |
| Magnesium | 23.5µg/L | 117.5µg/L |
| Sodium(1) | 32.360µg/L | 161.8µg/L |
| Vanadium | 2.6µg/L | 13µg/L |
| Zinc | 2.3µg/L | 11.5µg/L |
| Cyanide | 3.816µg/L | 19.08µg/L |

(1) Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, beryllium, copper, iron, vanadium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recoveries (%Rs) for aluminum, iron and selenium affecting the total metals were >125% quality control limit. The positive results reported for aluminum

in the affected samples were qualified as biased high, "K". The positive results reported for iron and selenium in the affected samples were qualified as estimated, "J", as a result of conflicting noncompliances.

- Laboratory duplicate imprecision was noted for iron affecting the total metals. The positive results reported for iron in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP Serial Dilution Percent Differences (%Ds) for barium, calcium, iron, magnesium, manganese and sodium affecting the dissolved metals were >10% quality control limit. The positive results reported for barium, calcium, iron, magnesium, manganese and sodium in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The MS %R for selenium affected the dissolved metals was >125% quality control limit. However, no validation actions were required as all sample results reported for selenium in the affected samples were nondetects.

A comparison of field duplicate pairs (7GW1020001/7GW1029901, 7GW1020001-F/7GW1029901-F, 7GW410001/7GW419901 and 7GW410001-F/7GW419901-F) is included in Appendix C. However, no validation action is required per regional guidance.

The field quality control sample (TAPWATER-01) was not used to qualified for blank contamination.

A laboratory duplicate was not analyzed for dissolved metals.

The ICP Serial Dilution %D for copper affecting dissolved metals was >10% quality control limit. However, no validation action was required as all results reported for copper in the affected samples were qualified, "B", as a results of blank contamination.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %Rs for aluminum, iron and selenium affecting the total metals were >125% quality control limit. The MS %R for selenium affecting the dissolved metals was >125% quality control limit. Laboratory duplicate imprecision was noted for iron affecting the total metals. The ICP Serial Dilution %Ds for barium, calcium, iron, magnesium, manganese and sodium affected the dissolved metals were >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-008**

**TO :** **R. KOTUN** **DATE:** **MARCH 25, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, PH, ACID-INSOLUBLE SULFIDE, BOD, COD, FERROUS IRON, TOC AND HEXAVALENT CHROMIUM**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO006**

**SAMPLES:** 21/Soils/

| | | |
|---|---|---|
| 2SU1050400 | 2SU1070400 | 3SS1020100 |
| 3SS1040100 | 3SS1050100 | 3SS1060100 |
| 3SS1070100 | 3SS1080100 | 3SS1090100 |
| 3SS1100100 | 3SS1110100 | 3SS1120100 |
| 3SU1120300 | 3SS1130100 | 3SS1140100 |
| 3SS1150100 | 3SU1020200 | 3SU1040300 |
| 3SU1050300 | 3SU1060300 | 3SU1070300 |

Overview

The sample set for SDG WO006, NSWC White Oak, consists of twenty-one (21) soil environmental samples.

All samples were analyzed for target analyte list (TAL) metals and cyanide. Samples 3SS1020100, 3SS1040100, 3SS1110100 and 3SS1140100 were also analyzed for pH, acid-insoluble sulfide, biochemical oxygen demand (BOD), chemical oxygen demand (COD), ferrous iron, total organic carbon (TOC) and hexavalent chromium. The samples were collected by Tetra Tech NUS on December 14 and 18, 1998 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM04.0 methodology. pH analyses were conducted using MCAWW EPA method 150.1. Acid-insoluble sulfide analyses were conducted using SW 846 method 9030A. BOD analyses were conducted using MCAWW EPA method 405.1. COD analyses were conducted using MCAWW EPA method 410.4. Ferrous iron analyses were conducted using MS18 method 3500-FE D. Hexavalent chromium analyses were conducted using SW 846 method 7496A. TOC analyses were conducted using the Walkley-Black method.

Summary

All analytes, with exception to those qualified as "UR", were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike

required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The interfering analyte iron was present in sample 2SU1050400 at a concentration which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, beryllium, cadmium, chromium, cobalt, copper, nickel, selenium, silver, thallium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for antimony, cadmium, cobalt, selenium and zinc in the affected sample. The nondetected results reported for antimony and cadmium were qualified as biased low, "UL". The positive result reported for cobalt was qualified as biased high, "K". The positive results reported for selenium and zinc were qualified as estimated, "J", as a result of conflicting noncompliances.

- The Matrix Spike (MS) Percent Recovery (%R) for antimony and cyanide were <75% quality control limit. The positive results reported for antimony were qualified as biased low, "L". The nondetected results reported for antimony and cyanide were qualified as biased low, "UL".

- Laboratory duplicate imprecision (>35%) was noted for copper. The positive results reported for copper were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP Serial Dilution Percent Differences (%Ds) for copper, potassium and zinc were >10% quality control limit. The positive results reported for copper, potassium and zinc were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %R for lead was <90% quality control limit. However, no validation action was required as all results reported for lead were >2X CRDL.

The CRDL %R for thallium was >110% quality control limit. However, no validation action was required as all results reported for thallium were nondetects.

The MS %R for ferrous iron was >125% quality control limit. However, no validation action was required as all results reported for ferrous iron were nondetects.

The MS %R for hexavalent chromium affecting samples 3SS1020100 and 3SS1040100 was <30% quality control limit. However, no validation action was required as the affected samples exhibited reducing conditions.

The reporting limits for cyanide in the metals fraction and in the general chemistry fraction were inconsistent. The IDL was used for the reporting limit in the metals fraction and was therefore used for validation.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method / preparation blanks.

**Other Factors Affecting Data Quality:** The interfering analyte iron was present in sample 2SU1050400. The MS %Rs for antimony and cyanide were <75% quality control limit. Laboratory duplicate imprecision (>35%) was noted for copper. ICP Serial Dilution %Ds for copper, potassium and zinc were >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-02-9-031**

**TO :** **R. KOTUN** **DATE:** **MARCH 29, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, PH, ACID-INSOLUBLE SULFIDE, BOD, FERROUS IRON, TOC, COD AND HEXAVALENT CHROMIUM**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO003**

**SAMPLES:** 16/Soil/

| | | |
|---|---|---|
| 4SS1070100 | 4SS1080100 | 4SS1090100 |
| 4SU1070200 | 4SU1080200 | 4SU1090200 |
| 7SS1010100 | 7SS1020100 | 7SS1020300 |
| 7SS1030100 | 7SS1050100 | 7SS1060100 |
| 7SU1010200 | 7SU1020200 | 7SU1030200 |
| 7SU1060200 | | |

Overview

The sample set for SDG WO003, NSWC White Oak, consists of sixteen (16) soil environmental samples.

All samples were analyzed for Target Analyte List (TAL) metals and cyanide. Samples 4SS1080100, 4SU1080200, 7SS1030100 and 7SU1030200 were also analyzed for pH, acid-insoluble sulfide, Biological Oxygen Demand (BOD), ferrous iron, Total Organic Carbon (TOC), Chemical Oxygen Demand (COD) and hexavalent chromium. The samples were collected by Tetra Tech NUS on November 19 and 20, 1998 and analyzed Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ILM04.0 methodology. pH analyses were conducted using SW 846 method 9045C. Acid-insoluble sulfide analyses were conducted using SW 846 method 9030A. BOD analyses were conducted using MCAWW EPA method 405.1. Ferrous iron analyses were conducted using SM18 method 3500-FE D. TOC analyses were conducted using the Walkley-Black method. COD analyses were conducted using MCAWW EPA method 410.4. Hexavalent chromium analyses were conducted using SW 846 method 7196A.

Summary

All analytes, with exception to those qualified, "UR", were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

- The Matrix Spike (MS) Percent Recovery (%R) for ferrous iron was <30% quality control limit. The nondetected results reported for ferrous iron were qualified as rejected, "UR".

Minor Problems

- The fourteen (14) day holding time for cyanide was marginally exceeded affecting all samples with the exception of 4SS1070200, 4SS1080100, 4SS1090100, 4SU1070200 and 4SU1080200. The nondetected results reported for cyanide in the affected samples were qualified as biased low, "UL".

- The holding time for BOD analyses was exceeded by 5 days from collection to preparation. The nondetected results reported for BOD were qualified as biased low, "UL".

- A Continuing Calibration Verification (CCV) Percent Recovery (%R) for cyanide affecting samples 4SS1070100, 4SS1080100, 4SS1090100, 4SU1070200 and 4SU1080200 was <90% quality control limit. The nondetected results reported for cyanide in the affected samples were qualified as biased low, "UL".

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for arsenic was >110% quality control limit. The positive results <2XCRDL reported for arsenic were qualified as biased high, "K".

- The CRDL %Rs for selenium were both above and below the 90-110% quality control limit. The nondetected results reported for selenium were qualified as estimated, "UJ". The direction of bias could not be determined.

- The CRDL %R for zinc was >110% quality control limit. The positive results <2X CRDL reported for zinc were qualified as estimated, "J", as a result of conflicting noncompliances.

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| Aluminum | 119.9µg/L | 119.9 mg/kg |
| Antimony | 4.3µg/L | 4.3 mg/kg |
| Barium | 1.0µg/L | 1.0 mg/kg |
| Beryllium | 1.1µg/L | 1.1 mg/kg |
| Cadmium | 0.5µg/L | 0.5 mg/kg |
| Calcium | 106.7µg/L | 106.7 mg/kg |
| Chromium | 1.1µg/L | 1.1 mg/kg |
| Cobalt | 1.2µg/L | 1.2 mg/kg |
| Copper(1) | 0.275 mg/kg | 1.375 mg/kg |
| Iron | 61.3µg/L | 61.3 mg/kg |

| | | |
|---|---|---|
| Lead | 2.0µg/L | 2.0 mg/kg |
| Magnesium | 99.4µg/L | 99.4 mg/kg |
| Manganese[1] | 0.265 mg/kg | 1.325 mg/kg |
| Nickel | 2.2µg/L | 2.2 mg/kg |
| Potassium | 65.9µg/L | 65.9 mg/kg |
| Selenium | 2.9µg/L | 2.9 mg/kg |
| Silver | 0.8µg/L | 0.8 mg/kg |
| Sodium | 195.0µg/L | 195.0 mg/kg |
| Thallium | 6.1µg/L | 6.1 mg/kg |
| Vanadium | 1.3µg/L | 1.3 mg/kg |
| Cyanide[1] | 0.241 mg/kg | 1.205 mg/kg |
| Hexavalent Chromium[1] | 0.6 mg/kg | 3.0 mg/kg |

[1] Maximum concentration found in soil preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors were taken into consideration when evaluating for blank contamination. Positive result < the action level for beryllium, cadmium, calcium, cobalt, copper, lead, magnesium, nickel, potassium, selenium, silver, sodium and thallium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level, were nondetects or were qualified as rejected, "R", due to holding time exceedance.

- The Matrix Spike (MS) Percent Recoveries (%R's) for antimony and acid-insoluble sulfide were <75% quality control limit. The nondetected results reported for antimony and acid-insoluble sulfide were qualified as biased low, "UL". The positive result reported for acid-insoluble sulfide was qualified as biased low, "L".

- The MS %R for selenium was <75% quality control limit. The positive and nondetected results reported for selenium were qualified as estimated, "J" and "UJ", respectively, as a result of conflicting noncompliances.

- The ICP Serial dilution Percent Difference (%D) for zinc was >10% quality control limit. The positive results reported for zinc were qualified as estimated, "J". The direction of bias could not be determined.

Notes

Sample 4SU1080200 was mislabeled on the Form 1 and throughout the data package. However, the data summary table and the ICP raw data contained the correct sample ID.

The CRDL %Rs for lead and thallium were >110% quality control limit. However, no validation action was required as all results reported for lead and thallium were either greater than 2X CRDL, nondetected or qualified as a result of blank contamination.

Laboratory duplicate imprecision was noted for hexavalent chromium. However, no validation actions were required as all positive results reported for hexavalent chromium were qualified as a result of blank contamination.

Samples 4SS1070100, 4SS1080100, 4SS1090100, 4SU1070200 and 4SU1080200 were reanalyzed for cyanide because a Laboratory Control Sample (LCS) was not included within the batch. However, the reanalyzes took place 36 days in exceedance of holding time. Therefore, the results from the original analyses were used for validation purposes.

Executive Summary

**Laboratory Performance:** The 14 day holding times for cyanide analyses was marginally exceeded. The CRDL %R's for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method / preparation blanks.

**Other Factors Affecting Data Quality:** The MS %Rs for antimony, selenium and acid-insoluble sulfide were <75% quality control limit. The MS %R for ferrous iron was <30% quality control limit. The ICP Serial Dilution %D for zinc was >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**C-PITT 04-9-035**

| | | | |
|---|---|---|---|
| **TO:** | **RON KOTUN** | **DATE:** | **APRIL 6, 1999** |
| **FROM:** | **SEAN NIXON** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION – VOAS, SVOAS, PESTICIDES/PCBS, AND EXPLOSIVES**
**CTO 298 NSWC WHITE OAK, PENNSYLVANIA**
**SDG – WO014**

**SAMPLES:** 9/Aqueous

| | | | | |
|---|---|---|---|---|
| 7GW080001 | 7GW1010001 | 7GW1040001 | 7GW420001 | 7GW430001 |
| PBSW1040001 | TB012699 | TB012799 | TB020199 | |

Overview

The sample set for CTO 298 NSWC White Oak, Pennsylvania SDG WO014, consists of nine (9) aqueous environmental samples including three (3) trip blanks.

All of the samples were analyzed for selected Target Compound List (TCL) Low Concentration volatiles, Low Concentration semivolatiles, pesticides/PCBs, and explosives. The samples were collected by Tetra Tech NUS on January 26 – 27 and February 1, 1999 and analyzed by Quanterra – North Canton under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. The VOAs and SVOAs analyses were conducted according to Contract Laboratory Procedure (CLP) OLM02.1, the pesticides/PCBs according to CLP OLM03.1, and the explosives were analyzed according to SW-846 Method 8330.

Summary

All analytes were successfully analyzed with the exception of those compounds that were rejected. The findings offered in this report were based upon a general review of all available data including data completeness, holding times, calibration data, laboratory and field quality control blank results, GC/MS tuning and performance, Matrix Spike (MS)/ Matrix Spike Duplicate (MSD) analyses, surrogate spike recoveries, Laboratory Control Sample (LCS) analyses, field duplicate results, compound identification and quantification, and detection limits.

Areas of concern with respect to data quality are listed below.

MAJOR PROBLEMS

Volatiles

- Initial and continuing calibrations contained Relative Response Factors RRFs below the 0.05 quality control limit for acetone and 1,2-dibromo-3-chloropropane. The nondetected results for the aforementioned compounds were rejected, UR, in the affected samples (all samples).

- The initial calibration of 02/05/99 contained an RRF below the 0.05 quality control limit for 2-butanone. The nondetected results for 2-butanone were rejected, UR, in the affected samples (7GW430001 and TB020199).

Semivolatiles

- No major problems were noted.

Pesticides

- No major problems were noted.

Explosives

- No major problems were noted.

MINOR PROBLEMS

Volatiles

- The following contaminant was detected in a trip blank:

| Analyte | Maximum Concentration | Aqueous Action level |
|---|---|---|
| Acetone | 1.8 ug/L | 18.0 ug/L |

Samples Affected: All.

Sample aliquot and dilution factors were taken into consideration when applying the action levels.
Positive results for acetone reported below the action level were considered false positives and qualified, (B). It should be noted that field quality control blanks were not qualified for field quality control blank contamination.

Semivolatiles

- The data were acceptable as reported by the laboratory.

Pesticides/PCBs

- Sample 7GW1040001 yielded 0% Recovery for Tetrachloro-meta-xylene (TCX) on analytical column DB-608 and surrogate %Rs below the 60% quality control limit for decachlorobiphenyl on both columns. The lack of recovery for TCX on DB-608 was caused by co-elution of a major peak in the retention time window for TCX. Therefore, data was not rejected. The nondetected results were qualified as estimated, UJ, in the aforementioned sample.

- Sample 7GW420001 yielded %Rs below the 60% quality control limit for decachlorobiphenyl on both analytical columns. The nondetected results were qualified as estimated, UJ, in the aforementioned sample.

Notes

Positive results reported below the Contract Required Quantitation Limits (CRQL) were qualified as estimated, (J).

Initial and continuing calibration noncompliances were noted for volatile compounds, however the noncompliances did not affect nondetected results. Because only nondetected results were reported for the affected compounds, no action was taken.

It should be noted that 2,6-dinitrotoluene was reported below the CRQL in the semivolatile analysis of sample 7GW080001. The explosives analysis of the aforementioned sample reported a nondetected result for 2,6-dinitrotoluene. No action was taken for the aforementioned disparity because the semivolatile result was reported below the CRQL.

Executive Summary

**Laboratory Performance:** Nondetected results for acetone, 2-butanone, and 1,2-dibromo-3-chloropropane were rejected, UR, for initial and/or continuing calibration noncomplinaces. Blank contamination was noted for acetone.

**Other Factors Affecting Data Quality:** Low pesticide/PCB surrogate recovery resulted in the estimation of nondetected results in samples 7GW420001 and 7GW1040001.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Data Validation", September 1994 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Sean T. Nixon
Environmental Scientist
Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer
Tetra Tech NUS

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-038**

**TO:** **RON KOTUN** **DATE: APRIL 7, 1999**

**FROM:** **DANA PIETO** **CC: DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – SVOCs & PEST/PCBs**
**CTO 298, NSWC WHITE OAK, MARYLAND**
**SDG WO024**

**SAMPLES:** 1 Aqueous:

9GW440001 9GW1040001

The sample set for CTO 298, NSWC White Oak, Maryland, SDG WO024, consists of two aqueous environmental samples. The samples were analyzed for target compound list (TCL) semivolatile and pesticide/PCB organic compounds.

The samples were collected by Tetra Tech NUS on February 25, and 26, 1999, and analyzed by Quanterra Laboratories, Inc. The semivolatile and pesticide/PCB compound analyses were analyzed under Naval Facilities Engineering Service Center (NFESC). The semivolatile aqueous analyses were conducted using the U.S. EPA Contract Laboratory Program (CLP) (OLC02.1) analytical and reporting protocols. The pesticide/PCB aqueous analyses were conducted using the U.S. EPA CLP (OLMO3.1) analytical and reporting protocols.

**Summary**

All compounds were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until extraction/analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, surrogate spike recoveries, internal standards performance, compound identification and quantitation, detection limits, and tentatively identified compounds (TICs).

Areas of concern with respect to data quality are listed below.

Major Problems

None.

**MEMO TO:** **RON KOTUN**
**DATE:** **APRIL 7, 1999 - PAGE 2**

Minor Problems

None.

Notes

- The pesticide individual standard mixture B percent resolution fell below the 100% quality control limit for gamma-Chlordane. No action is warranted because the noncompliance occurred on only one column.

**Executive Summary**

***Laboratory Performance***: The pesticide individual standard mixture B percent resolution fell below the 100% quality control limit for gamma-Chlordane.

**MEMO TO:** **RON KOTUN**
**DATE:** **APRIL 7, 1999 - PAGE 3**

The data for these analyses were reviewed with reference to method-specific quality control criteria, the "National Functional Guidelines for Organic Data Evaluation", as amended for use within EPA Region III, and the NFESC Interim Guidance Document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (February 1996).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Dana L. Pieto

Dana L. Pieto

Tetra Tech NUS
Data Validator

Joseph A. Samchuck

Tetra Tech NUS
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-045**

**TO:** **RON KOTUN** **DATE: APRIL 7, 1999**

**FROM:** **DANA PIETO** **CC: DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – VOCs, SVOCs, PEST/PCBs & HERBs**
**CTO 298, NSWC WHITE OAK, MARYLAND**
**SDG 9902196**

**SAMPLES:** 1 Leachate:

Waste Tank 2

The sample set for CTO 298, NSWC White Oak, Maryland, SDG 9902196, consists of one leachate sample. The sample was analyzed for Toxicity Characteristic Leachate Procedure (TCLP) volatile, semivolatile, pesticide/PCB, and herbicide organic compounds.

The sample was collected by Tetra Tech NUS on February 25, 1999, and analyzed by GPL Laboratories. The volatile, semivolatile, pesticide/PCB, and herbicide compound analyses were analyzed under Naval Facilities Engineering Service Center (NFESC). The semivolatile aqueous analyses were conducted using the U.S. EPA Contract Laboratory Program (CLP) (OLC02.1) analytical and reporting protocols. The pesticide/PCB aqueous analyses were conducted using the U.S. EPA CLP (OLMO3.1) analytical and reporting protocols.

## Summary

All compounds were successfully analyzed except for those that were rejected. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until extraction/analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, surrogate spike recoveries, internal standards performance, compound identification and quantitation, detection limits, and tentatively identified compounds (TICs).

Areas of concern with respect to data quality are listed below.

### Major Problems

- The volatile initial and continuing calibration Relative Response Factors (RRFs) were below the 0.05 quality control limit for 2-butanone. Nondetected results for were qualified as rejected, (UR).

Minor Problems

None.

Notes

- The volatile initial calibration percent relative standard deviation (%RSD) and the continuing calibration percent difference (%D) exceeded the quality control limits for 2-butanone. No action is warranted because the results were already qualified due to a more severe noncompliance.
- The volatile Laboratory Control Sample (LCS) percent recovery (%R) fell below the lower quality control limit for 2-butanone. No action is warranted based on LCS noncompliances alone.
- The semivolatile LCS %R fell below the lower quality control limit for 1,4-dichlorobenzene. No action is warranted based on LCS noncompliances alone.
- The pesticide Matrix Spike (MS) %R exceeded the quality control limit for Endrin. No action is warranted based on MS noncompliances alone.
- The pesticide LCS %R exceeded the quality control limit for Endrin. No action is warranted based on LCS noncompliances alone.
- The pesticide independent initial calibration verification %Rs for gamma-BHC, Endrin, gamma-Chlordane, and alpha-Chlordane were outside of the quality control limits. No action is warranted based on the noncompliance.

**Executive Summary**

***Laboratory Performance***: The volatile initial and continuing calibration RRFs were less than the 0.05 quality control limit for 2-butanone. The volatile initial calibration %RSD and continuing calibration %D exceeded the quality control limits for 2-butanone. The volatile LCS %R fell below the lower quality control limit for 2-butanone. The semivolatile LCS %R fell below the lower quality control limit for 1,4-dichlorobenzene. The pesticide LCS %R exceeded the quality control limits for Endrin. The pesticide independent initial calibration verification for gamma-BHC, Endrin, gamma-Chlordane, and alpha-Chlordane were outside the quality control limits.

***Other Factors Affecting Data Quality:*** The pesticide MS %R exceeded the quality control limit for Endrin.

**MEMO TO:** **RON KOTUN**
**DATE:** **APRIL 7, 1999 - PAGE 3**

The data for these analyses were reviewed with reference to method-specific quality control criteria, the "National Functional Guidelines for Organic Data Evaluation", as amended for use within EPA Region III, and the NFESC Interim Guidance Document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (February 1996).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Dana L. Pieto

Dana L. Pieto

Tetra Tech NUS
Data Validator

Joseph A. Samchuck

Tetra Tech NUS
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-063**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 9, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TCLP METALS**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – 9812171**

**SAMPLES:** 1/TCLP Leachate/

WASTE TANK

Overview

The sample set for SDG 9812171, NSWC White Oak, consists of one (1) TCLP leachate environmental sample.

The sample was analyzed for toxicity characteristic leaching procedure (TCLP) metals. The sample was collected by Tetra Tech NUS on December 22, 1998 and analyzed by GPL Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals analyses were conducted using SW 846 method 6010B.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for selenium was <90% quality control limit. The nondetected result reported for selenium was qualified as biased low, "UL".

Executive Summary

**Laboratory Performance:** The CRDL %R for several selenium was <90% quality control limit.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-096**

| | | | |
|---|---|---|---|
| **TO:** | **R. KOTUN** | **DATE:** | **APRIL 13, 1999** |
| **FROM:** | **TERRI L. SOLOMON** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION - TAL METALS**
**CTO 298-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – WO025**

**SAMPLES:** 1/Aqueous/

9GW440001F

Overview

The sample set for CTO 298, NSWC White Oak, SDG WO025, consists of one (1) aqueous environmental sample.

The sample was analyzed for filtered Target Analyte List (TAL) metals. The sample was collected by Tetra Tech NUS on March 4, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. All metals analyses were conducted using Contract Laboratory (CLP) Statement of Work (SOW) ILMO4.0 analytical and reporting protocols.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, interference check samples (ICS), laboratory duplicate results, matrix spike recoveries, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for cadmium was < 90% quality control limit. The positive result < 2X CRDL reported for the aforementioned analyte was qualified as biased low, "L".

- The following contaminants were detected in the laboratory method/ preparation blanks at the following maximum concentrations:

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| beryllium | 0.1 ug/L | 0.5 ug/L |
| lead | 1.1 ug/L | 5.5 ug/L |
| nickel | 8.6 ug/L | 43.0 ug/L |
| silver | 2.9 ug/L | 14.5 ug/L |
| sodium[1] | 22.830 ug/L | 114.15 ug/L |
| thallium | 3.4 ug/L | 17.0 ug/L |

Samples Affected: All

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for beryllium, nickel and thallium have been qualified, "B", as a result of blank contamination. No validation action was taken for the remaining analytes since the results were either greater than the action level or were nondetects.

Notes

The CRDL %Rs for chromium, lead, mercury, nickel, selenium and thallium were outside the 90-110% quality control limits. However, no validation actions were required as all sample results were either > 2X CRDL, nondetects or qualified as blank contamination.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limits. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-095**

**TO :** **R. KOTUN** **DATE:** **APRIL 19, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO020**

**SAMPLES:** 30/Aqueous/

| | | |
|---|---|---|
| 11GW1110001 | 11GW1110001-F | 13GW010001 |
| 13GW010001-F | 13GW020001 | 13GW030001 |
| 13GW040001 | 4GW1020001 | 4GW1020001-F |
| 4GW1030001 | 4GW1030001-F | 4GW1050001 |
| 4GW1059901 | 4GW1090001 | 4GW1099901 |
| 4GW110001 | 4GW110001-F | 4GW120001 |
| 4GW120001-F | 4GW480001 | 4GW480001-F |
| 4GW500001 | 4GW500001-F | 4GW520001 |
| 4GW520001-F | 9GWC140001 | 9GWC140001-F |
| 9GWC50001 | 9GWC50001-F | 9GWC60001 |

Overview

The sample set for SDG WO020, NSWC White Oak, consists of thirty (30) aqueous environmental samples. Two (2) field duplicate pairs (4GW1050001 / 4GW1059901 and 4GW1090001 / 4GW1099901) were included within this SDG.

All samples, with exception to those samples designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 12, 15-18, 1999 and analyzed Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike results, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for mercury and cadmium were <90% quality control limit. The positive results <2X CRDL and the nondetected results reported for mercury and cadmium were qualified as biased low, "L" and "UL", respectively.

- The CRDL %Rs for antimony and chromium were >110% quality control limit. The positive results <2X CRDL reported for antimony and chromium were qualified as biased high, "K".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 77.0µg/L | 385µg/L |
| Barium | 0.6µg/L | 3.0µg/L |
| Beryllium | 0.7µg/L | 3.5µg/L |
| Calcium | 73.2µg/L | 366µg/L |
| Chromium(1) | 2.620µg/L | 13.1µg/L |
| Cobalt | 5.0µg/L | 25.0µg/L |
| Iron(1) | 50.460µg/L | 252.3µg/L |
| Magnesium | 87.2µg/L | 436µg/L |
| Manganese | 1.3µg/L | 6.5µg/L |
| Potassium | 499.1µg/L | 2495.5µg/L |
| Selenium | 2.9µg/L | 14.5µg/L |
| Silver | 3.6µg/L | 18.0µg/L |
| Sodium(1) | 50.280µg/L | 251.4µg/L |
| Thallium(1) | 4.190µg/L | 20.95µg/L |

(1) Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, beryllium, chromium, cobalt, iron, potassium, selenium, silver and thallium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The interfering analyte calcium was present in sample 4GW110001 at a concentration which was comparable to the level of calcium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, cobalt, lead, manganese, nickel, silver, sodium, thallium and vanadium were present in the ICS solution at

concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for antimony and cadmium in the affected sample. The positive result reported for antimony was qualified as biased high, "K". The positive result reported for cadmium was qualified as biased low, "L".

- The interfering analyte calcium was present in sample 4GW110001-F at a concentration which was comparable to the level of calcium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, cobalt, lead, manganese, nickel, silver, sodium, thallium and vanadium were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for cadmium, nickel and silver in the affected sample. The nondetected results reported for cadmium and silver were qualified as biased low, "UL". The positive result reported for nickel was qualified as biased low, "L".

- The Matrix Spike (MS) Percent Recoveries (%Rs) for selenium affecting all total and dissolved metals were >125% quality control limit. The positive results reported for selenium were qualified as biased high, "K".

Notes

The CRDL %Rs for selenium, silver and thallium were >110% quality control limit. However, no validation action was required as all results reported for selenium, silver and thallium were either nondetects, qualified as a result of blank contamination or >2X CRDL.

The Post Digestion Spike Recover for selenium affecting the TAL metals was >125% quality control limit. However, no validation action was required as per Region III guidance.

A comparison of field duplicate pairs (4GW1050001 / 4GW1059901 and 4GW1090001 / 4GW1099901) is included in Appendix C.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The interfering analyte calcium was present in samples 4GW110001 and 4GW110001-F. The MS %Rs for selenium affecting the total and dissolved metals was >125% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-217**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 19, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO017**

**SAMPLES:** 9/Soils/

| | | |
|---|---|---|
| 11LW110001 | LW05SLD0001 | LW080001 |
| LW08B0001 | LW120001 | LW12B0001 |
| LW130001 | LW13C0001 | LW150001 |

Overview

The sample set for SDG WO017, NSWC White Oak, consists of thirteen (13) soil environmental samples.

All samples were analyzed for target analyte list (TAL) metals and cyanide. The samples were collected by Tetra Tech NUS on February 2-5, 1999 and analyzed Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike/ matrix spike duplicate results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for copper and thallium were >110% quality control limit. The positive results <2X CRDL reported for copper and thallium were qualified as biased high, "K".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| Aluminum | 75.7µg/L | 75.7 mg/kg |
| Antimony | 4.4µg/L | 4.4 mg/kg |
| Barium | 1.0µg/L | 1.0 mg/kg |
| Beryllium | 1.1µg/L | 1.1 mg/kg |
| Cadmium | 0.4µg/L | 0.4 mg/kg |
| Calcium(1) | 36.488 mg/kg | 182.44 mg/kg |
| Chromium(1) | 0.221 mg/kg | 1.105 mg/kg |
| Cobalt | 1.1µg/L | 1.1 mg/kg |
| Copper(1) | 0.302 mg/kg | 1.51 mg/kg |
| Iron | 32.1µg/L | 32.1 mg/kg |
| Magnesium | 77.9µg/L | 77.9 mg/kg |
| Manganese(1) | 0.225 mg/kg | 1.125 mg/kg |
| Nickel | 1.3µg/L | 1.3 mg/kg |
| Selenium(1) | 0.862 mg/kg | 4.31 mg/kg |
| Vanadium | 1.0µg/L | 1.0 mg/kg |

(1) Maximum concentration found in a soil preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for antimony, beryllium, cadmium, calcium, cobalt and selenium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recovery (%R) for antimony was <75% quality control limit. The nondetected results reported for antimony were qualified as biased low, "UL".

Notes

The CRDL %Rs for lead, manganese, selenium and zinc were >110% quality control limit. However, no validation action was required as all results reported for lead, manganese, selenium and zinc were >2X CRDL, qualified as a result of blank contamination or nondetected.

The Laboratory Control Sample (LCS) Percent Recovery (%R) for cyanide was >120% quality control limit. However, no validation action was required as all results reported for cyanide were nondetected.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside <110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %R for antimony was <75% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

PITT-02-9-213

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 19, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, TOTAL DISSOLVED SOLIDS, TOTAL SUSPENDED SOLIDS**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO009**

**SAMPLES:** 10/Aqueous/

| | | |
|---|---|---|
| 11SW1000001 | 11SW1010001 | 9SW1000001 |
| 9SW1010001 | 9SW1020001 | 9SW1030001 |
| 9SW1040001 | 9SW1050001 | 9SW1050002 |
| 9TW0020001 | | |

Overview

The sample set for SDG WO009, NSWC White Oak, consists of ten (10) aqueous environmental samples.

All samples were analyzed for target analyte list (TAL) metals and cyanide. All samples, with the exception of 9TW0020001, were also analyzed for total dissolved solids (TDS) and total suspended solids (TSS). The samples were collected by Tetra Tech NUS on January 11, 13 and 13, 1999 and analyzed Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM04.0 methodology. TDS solids analyses were conducted using MCAWW EPA method 160.1. TSS analyses were conducted using MCAWW EPA method 160.2.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for arsenic, copper and manganese were >110% quality control limit. The positive results <2X CRDL reported for arsenic, copper and manganese were qualified as biased high, "K".

- The CRDL %Rs for lead and selenium were <90% quality control limit. The positive results reported for lead were qualified as biased low, "L". The nondetected results reported for lead and selenium were qualified as biased low, "UL".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

  Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 104.8µg/L | 524µg/L |
| Antimony | 4.3µg/L | 21.5µg/L |
| Barium[1] | 1.129µg/L | 5.645µg/L |
| Beryllium | 0.9µg/L | 4.5µg/L |
| Cadmium | 0.4µg/L | 2.0µg/L |
| Calcium[1] | 190.376µg/L | 951.88µg/L |
| Copper[1] | 2.652µg/L | 13.26µg/L |
| Iron[1] | 92.867µg/L | 464.335µg/L |
| Magnesium | 122.9µg/L | 614.5µg/L |
| Manganese[1] | 0.689µg/L | 3.445µg/L |
| Selenium[1] | 4.679µg/L | 23.395µg/L |
| Silver | 0.7µg/L | 3.5µg/L |
| Sodium | 167.1µg/L | 835.5µg/L |
| Vanadium | 1.0µg/L | 5.0µg/L |
| Zinc[1] | 6.233µg/L | 31.165µg/L |
| Cyanide | 7.5µg/L | 37.5 µg/L |

  [1] Maximum concentration found in aqueous preparation blank.

  An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, antimony, beryllium, cadmium, copper, cyanide, iron, selenium, vanadium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recovery (%R) for arsenic was >125% quality control limit. The positive results reported for arsenic were qualified as biased high, "K".

- Laboratory duplicate imprecision was noted for zinc. The positive results reported for zinc were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %R for aluminum was <50% quality control limit. However, no validation action was required as all results reported for aluminum were qualified, "B", as a result of blank contamination.

The CRDL %R for thallium was >110% quality control limit. However, no validation action was required as all results reported for thallium were nondetects.

The reporting limits for cyanide in the metals fraction and in the general chemistry fraction were inconsistent. The IDL was used for the reporting limit in the metals fraction and was therefore used for validation.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %R for arsenic was >125% quality control limit. Laboratory duplicate imprecision was noted for zinc.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-003**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 19, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO024**

**SAMPLES:** 3/Aqueous/

9GW1040001 9GW1040001-F 9GW440001

Overview

The sample set for SDG WO024, NSWC White Oak, consists of three (3) aqueous environmental samples.

Sample 9GW1040001 was analyzed for target analyte list (TAL) metals. Sample 9GW1040001-F was analyzed for dissolved TAL metals. Sample 9GW440001 was analyzed for cyanide. The samples were collected by Tetra Tech NUS on January 25 and 26, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

*Areas of concern with respect to data quality are listed below.*

Major Problems

- None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for beryllium, cadmium and zinc were <90% quality control limit. The nondetected results reported for beryllium and cadmium were qualified as biased low, "UL". The positive results <2X CRDL reported for zinc were qualified as biased low, "L".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level(aqueous) |
|---|---|---|
| Aluminum | 21.4µg/L | 107µg/L |
| Iron | 11.0µg/L | 55µg/L |
| Magnesium | 32.3µg/L | 161.5µg/L |
| Thallium | 3.4µg/L | 17.0µg/L |

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for thallium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

Notes

The CRDL %Rs for iron, lead, selenium and thallium were >110% quality control limit. However, no validation action was required as all results reported for iron, lead, selenium and thallium were either >2X CRDL, qualified as a result of blank contamination or nondetected.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-004**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 19, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TCLP METALS**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – 9902196**

**SAMPLES:** 1/Aqueous/

WASTE TANK 2

Overview

The sample set for SDG 9902196, NSWC White Oak, consists of one (1) aqueous environmental sample.

The sample was analyzed for toxicity characteristic leaching procedure (TCLP) arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. The sample was collected by Tetra Tech NUS on February 25, 1999 and analyzed by GLP Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals analyses were conducted using SW 846 methodologies.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

Areas of concern with respect to data quality are listed below.

Major Problems

- None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for lead was <90% quality control limit. The nondetected result reported for lead was qualified as biased low, "UL".

Notes

The CRDL %R for selenium was >110% quality control limit. However, no validation action was required the result reported for selenium was nondetected.

The Matrix Spike (MS) Percent Recoveries (%Rs) for cadmium, lead, selenium and silver were >125% quality control limit. However, no validation action was required as the results reported for cadmium, lead, selenium and silver were all nondetected.

Executive Summary

**Laboratory Performance:** The CRDL %R for lead was <90% quality control limit.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-056**

**TO :** **R. KOTUN** **DATE:** **APRIL 19, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO023**

**SAMPLES:** 27/Aqueous/

| | | |
|---|---|---|
| 4GW1100001 | 4GW1100001-F | 9GW030001 |
| 9GW030001-F | 9GW040001 | 9GW060001 |
| 9GW060001-F | 9GW070001 | 9GW070001-F |
| 9GW1020001 | 9GW1020001-F | 9GW1029901 |
| 9GW1029901-F | 9GW1040001 | 9GW1050001 |
| 9GW1060001 | 9GW1060001-F | 9GW440001 |
| 9GW550001 | 9GW550001-F | 9GW590001 |
| 9GW740001 | 9GW740001-F | 9GW750001 |
| 9GW830001 | 9GW830001-F | 9GWBLD3670001 |

Overview

The sample set for SDG WO023, NSWC White Oak, consists of twenty-seven (27) aqueous environmental samples. Two (2) field duplicate pairs (9GW1020001 / 9GW1029901 and 9GW1020001-F / 9GW1029901-F) were included within this SDG.

All samples, with exception to samples 4GW110001 and 9GW1040001 and those samples designated –F, were analyzed for target analyte list (TAL) metals and cyanide. Samples 4GW110001 and 9GW1040001 were analyzed for cyanide. The samples designated with –F, were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 23 and 24, 1999 and analyzed Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for beryllium, cadmium and zinc were <90% quality control limit. The nondetected results reported for beryllium and cadmium were qualified as biased low, "UL". The positive results <2X CRDL reported for zinc were qualified as estimated, "J", as a result of conflicting noncompliances.

- The CRDL %R for mercury was >110% quality control limit. The positive results <2X CRDL reported for mercury was qualified as biased high, "K".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 19.8µg/L | 99.0µg/L |
| Copper(1) | 3.480µg/L | 17.4µg/L |
| Iron(1) | 62.590µg/L | 312.95µg/L |
| Lead | 1.0µg/L | 5.0µg/L |
| Magnesium | 28.4µg/L | 142µg/L |
| Sodium(1) | 13.320µg/L | 66.6µg/L |
| Thallium(1) | 3.820µg/L | 19.1µg/L |

(1) Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, copper, iron, lead and thallium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- Laboratory duplicate imprecision (>20%) was noted for zinc affecting the total metals. The positive results reported for zinc in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

- Field duplicate imprecision (>30%) was noted for iron affecting the total metals. The positive results reported for iron in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP Serial Dilution Percent Differences (%Ds) for barium and calcium affecting the total metals were >10% quality control limit. The positive results reported for barium and calcium in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP Serial Dilution %Ds for barium, calcium, iron and zinc affecting the dissolved metals were >10% quality control limit. The positive results reported for barium, calcium, iron and zinc in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %R for iron was >110% quality control limit. However, no validation action was required as all results reported for iron were either >2X CRDL or qualified as a result of blank contamination.

A comparison of field duplicate pairs (9GW1020001 / 9GW1029901 and 9GW1020001-F / 9GW1029901-F) is included in Appendix C.

The Electronic Deliverable Data (EDD) originally submitted with this data package did not match the Form 1s. The laboratory was contacted on April 1. On April 5 and 6, the laboratory was still correcting the EDD. On April 7, the corrected EDD was received.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for beryllium, cadmium, mercury and zinc were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** Laboratory duplicate imprecision was noted for zinc affecting the total metals. Field duplicate imprecision was noted for iron affecting the total metals. The ICP Serial Dilution %Ds for barium and calcium affecting the total metals were >10% quality control limit. The ICP Serial Dilution %Ds for barium, calcium, iron and zinc affecting the dissolved metals were >10%.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-195**

**TO :** **R. KOTUN** **DATE:** **APRIL 19, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO019**

**SAMPLES:** 30/Aqueous/

| | | |
|---|---|---|
| 2GW1010001 | 2GW1020001 | 2GW1030001 |
| 2GW1030001-F | 2GW1040001 | 2GW1050001 |
| 2GW1050001-F | 2GW300001 | 2GW310001 |
| 2GW310001-F | 2GW320001 | 2GW450001 |
| 2GW450001-F | 2GW760001 | 2GW760001-F |
| 3GW1020001 | 3GW1040001 | 3GW1040001-F |
| 3GW1070001 | 3GW1070001-F | 3GW170001 |
| 3GW180001 | 3GW189901 | 3GW190001 |
| 3GW190001-F | 3GW470001 | 3GW470001-F |
| 3GW770001 | 3GW770001-F | 3GW78S0001 |

Overview

The sample set for SDG WO019, NSWC White Oak, consists of thirty (30) aqueous environmental samples. One (1) field duplicate pair (3GW180001 / 3GW189901) was included within this SDG.

All samples, with exception to those designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F, were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 9-11, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, fieldl duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for cadmium were both above and below the 90-110% quality control limit. The nondetected results reported for cadmium were qualified as estimated, "UJ", as a result of conflicting noncompliances.

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 153.3µg/L | 766.5µg/L |
| Barium | 0.8µg/L | 4.0µg/L |
| Beryllium | 0.9µg/L | 4.5µg/L |
| Cadmium | 3.5µg/L | 17.5µg/L |
| Calcium | 137.4µg/L | 687µg/L |
| Chromium | 2.6µg/L | 13.0µg/L |
| Iron | 68.1µg/L | 340.5µg/L |
| Magnesium | 134.6µg/L | 673µg/L |
| Sodium[1] | 18.300µg/L | 91.5µg/L |
| Thallium | 4.2µg/L | 21.0µg/L |
| Zinc[1] | 15.090µg/L | 75.45µg/L |

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, beryllium, cadmium, chromium, iron, thallium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

Notes

The CRDL %Rs for silver and thallium were >110% quality control limit. However, no validation action was required as all results reported for silver and thallium were either nondetects or qualified as a result of blank contamination.

A comparison of field duplicate pair (3GW180001 / 3GW189901) is included in Appendix C.

The Form 1s for cyanide for samples 2GW1010001 and 2GW1020001 were not included in the original data package. The laboratory was notified and provided the missing forms.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for cadmium and thallium were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

**PITT-04-9-023**

**TO :** **R. KOTUN** **DATE:** **APRIL 20, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO021**

**SAMPLES:** 32/Aqueous/

| | | |
|---|---|---|
| 4GW1000001 | 4GW1000001-F | 4GW100001 |
| 4GW100001-F | 4GW1010001 | 4GW1010001-F |
| 4GW1040001 | 4GW1040001-F | 4GW1060001 |
| 4GW1070001 | 4GW1080001 | 4GW1080001-F |
| 4GW130001 | 4GW130001-F | 4GW150001 |
| 4GW49D0001 | 4GW49D0001-F | 4GW790001 |
| 4GW799901 | 4GW800001 | 4GW800001-F |
| 4GW81D0001 | 4GW81D9901 | 4GW81S0001 |
| 4GW81S0001-F | 4GW820001 | 4GW820001-F |
| 4GW890001 | 5GW010001 | 5GW010001-F |
| 9GW1000001 | 9GW1000001-F | |

Overview

The sample set for SDG WO021, NSWC White Oak, consists of thirty-two (32) aqueous environmental samples. Two (2) field duplicate pairs (4GW790001 / 4GW799901 and 4GW81D001 / 4GW81D9901) were included within this SDG.

All samples, with exception to those designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F, were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 18-20, 1999 and analyzed by Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

  Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 45.9µg/L | 229.5µg/L |
| Antimony[1] | 2.030µg/L | 10.15µg/L |
| Barium[1] | 2.310µg/L | 11.55µg/L |
| Beryllium | 0.4µg/L | 2.0µg/L |
| Cadmium | 3.6µg/L | 18.0µg/L |
| Calcium[1] | 45.180µg/L | 225.9µg/L |
| Chromium | 3.6µg/L | 18.0µg/L |
| Iron[1] | 46.930µg/L | 434.65µg/L |
| Lead[1] | 1.660µg/L | 8.3µg/L |
| Magnesium[1] | 38.250µg/L | 153µg/L |
| Manganese[1] | 1.060µg/L | 5.3µg/L |
| Potassium | 490.5µg/L | 2452.5µg/L |
| Selenium | 3.2µg/L | 16.0µg/L |
| Silver[1] | 3.600µg/L | 18.0µg/L |
| Sodium[1] | 60.380µg/L | 301.9µg/L |
| Thallium | 4.0µg/L | 20.0µg/L |
| Vanadium | 3.8µg/L | 19.0µg/L |
| Zinc[1] | 2.760µg/L | 13.8µg/L |

  [1] Maximum concentration found in an aqueous preparation blank.

  An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, antimony, beryllium, cadmium, chromium, iron, lead, potassium, selenium, silver, thallium, vanadium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The interfering analyte iron was present in sample 4GW1000001 at a concentration which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely barium, cadmium, chromium, cobalt, lead, manganese, nickel, selenium, sodium, thallium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for cadmium, cobalt,

nickel, thallium and zinc in the affected sample. The positive results reported for cobalt and zinc were qualified as biased high, "K". The positive result reported for nickel was qualified as biased low, "L". The nondetected results reported for cadmium and thallium were qualified as biased low, "UL".

- The interfering analytes aluminum, calcium and iron were present in sample 4GW100001 at concentrations which were comparable to the levels of aluminum, calcium and iron in the Interference Check Sample (ICS) solution. Several analytes namely barium, cadmium, chromium, cobalt, lead, manganese, nickel, selenium, sodium, thallium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for cadmium, cobalt, selenium and thallium in the affected sample. The positive results reported for cobalt and selenium were qualified as biased high, "K". The nondetected results reported for cadmium and thallium were qualified as biased low, "UL".

- The interfering analyte iron was present in sample 4GW820001 at a concentration which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely barium, cadmium, chromium, cobalt, lead, manganese, nickel, selenium, sodium, thallium, vanadium and zinc were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for cobalt in the affected sample. The positive result reported for cobalt was qualified as biased high, "K".

Notes

The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for antimony, cadmium, lead, selenium and thallium were >110% quality control limit. However, no validation action was required as all results reported for antimony, cadmium, lead, selenium and thallium were either nondetected, qualified as a result of blank contamination or >2X CRDL.

A comparison of field duplicate pairs (4GW790001 / 4GW799901 and 4GW81D001 / 4GW81D9901) is included in Appendix C.

The following sample IDs were changed per the Chain of Custody report: 4GW1000001 to 9GW1000001 and 4GW1000001-F to 9GW1000001-F. The Form 1s were amended by the data validator.

Executive Summary

**Laboratory Performance:** Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The interfering analytes aluminum, calcium and/or iron were present in several samples.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-151**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 21, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE AND TOC**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO010**

**SAMPLES:** 9/Soils/

| | | |
|---|---|---|
| 11SD1000001 | 11SD1010001 | 9SD1000001 |
| 9SD1010001 | 9SD1020001 | 9SD1030001 |
| 9SD1040001 | 9SD1050001 | 9SD1050002 |

Overview

The sample set for SDG WO010, NSWC White Oak, consists of nine (9) soil environmental samples.

All samples were analyzed for target analyte list (TAL) metals, cyanide and total organic carbon (TOC). The samples were collected by Tetra Tech NUS on January 12 and 13, 1999 and analyzed by Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology. TOC analyses were conducted using the SMCA Walkley-Black method.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for arsenic and copper were >110% quality control limit. The positive results <2X CRDL reported for arsenic and copper were qualified as biased high, "K".

- The CRDL %R for selenium was <90% quality control limit. The positive results <2X CRDL and nondetected results reported for selenium were qualified as biased low, "L" and "UL", respectively.

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| Aluminum | 104.8µg/L | 104.8 mg/kg |
| Antimony | 4.3µg/L | 4.3 mg/kg |
| Barium(1) | 0.249 mg/kg | 1.245 mg/kg |
| Beryllium | 0.9µg/L | 0.9 mg/kg |
| Cadmium | 0.4µg/L | 0.4 mg/kg |
| Calcium(1) | 108.613 mg/kg | 543.1 mg/kg |
| Copper (1) | 1.750 mg/kg | 8.75 mg/kg |
| Iron(1) | 14.967 mg/kg | 74.84 mg/kg |
| Magnesium | 122.9µg/L | 122.9 mg/kg |
| Manganese(1) | 1.167 mg/kg | 5.835 mg/kg |
| Potassium | 56.9µg/L | 56.9 mg/kg |
| Silver | 0.7µg/L | 0.7 mg/kg |
| Sodium (1) | 42.327 mg/kg | 211.6 mg/kg |
| Vanadium | 1.0µg/L | 1.0 mg/kg |
| Zinc(1) | 3.187 mg/kg | 15.94 mg/kg |

(1) Maximum concentration found in soil preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Percent solids, sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for antimony, beryllium, calcium, copper, magnesium, potassium, sodium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recovery (%R) for lead was <75% quality control limit. The positive results reported for lead were qualified as estimated, "J", as a result of conflicting noncompliances.

- Laboratory duplicate imprecision (>35%) was noted for aluminum, iron and lead. The positive result reported for aluminum, iron and lead were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %Rs for lead, manganese and thallium were outside the 90-110% quality control limit. However, no validation action was required as all results reported for lead, manganese and thallium were either >2X CRDL or nondetects.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %R for lead was <75% quality control limit. Laboratory duplicate imprecision was noted for aluminum, iron and lead.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-128**

**TO :** **R. KOTUN** **DATE:** **MAY 3, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO016**

**SAMPLES:** 32/Aqueous/

| | | |
|---|---|---|
| 11GW1010001 | 11GW1010001-F | 11GW1020001 |
| 11GW1020001-F | 11GW1030001 | 11GW1030001-F |
| 11GW1040001 | 11GW1040001-F | 11GW220001 |
| 11GW230001 | 11GW250001 | 11GW250001-F |
| 11GW260001 | 11GW270001 | 11GW640001 |
| 11GW640001-F | 11GW660001 | 11GW670001 |
| 11GW680001 | 11GW680001-F | 11GW710001 |
| 11GW710001-F | 11GW730001 | 11GW730001-F |
| 11GW840001 | 11GW849901 | 11GW860001 |
| 11GW860001-F | 11GW870001 | 11GW870001-F |
| 11GW879901 | 11GW879901-F | |

Overview

The sample set for SDG WO016, NSWC White Oak, consists of thirty-two (32) aqueous environmental samples. Three (3) field duplicate pairs (11GW840001/11GW849901, 11GW870001/11GW879901 and 11GW870001-F /11GW879901-F) were included within this SDG.

All samples, with exception to those designated –F, were analyzed for target analyte list (TAL) metals and cyanide. The samples designated with –F, were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 2-6, 1999 and analyzed Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field duplicate imprecision, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for cadmium were both above and below the 90-110% quality control limit. The nondetected results reported for cadmium were qualified as estimated, "UJ", as a result of conflicting noncompliances.
- The CRDL %R for chromium was <90% quality control limit. The positive results <2X CRDL and the nondetected results reported for chromium were qualified as biased low, "L" and "UL", respectively.
- The CRDL %R for selenium was >110% quality control limit. The positive results <2X CRDL reported for selenium were qualified as biased high, "K".
- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 90.3µg/L | 451.5µg/L |
| Antimony | 3.1µg/L | 15.5µg/L |
| Barium | 1.3µg/L | 6.5µg/L |
| Beryllium | 1.2µg/L | 6.0µg/L |
| Cadmium | 3.5µg/L | 17.5µg/L |
| Calcium | 319.3µg/L | 1596.5µg/L |
| Cobalt | 6.0µg/L | 30.0µg/L |
| Iron | 37.4µg/L | 187µg/L |
| Lead | 1.3µg/L | 6.5µg/L |
| Magnesium | 97.6µg/L | 488µg/L |
| Manganese | 1.2µg/L | 6.0µg/L |
| Potassium | 489.4µg/L | 2447µg/L |
| Silver | 4.2µg/L | 21µg/L |
| Sodium[1] | 36.590µg/L | 182.95µg/L |
| Vanadium | 3.5µg/L | 17.5µg/L |
| Zinc | 15.0µg/L | 75µg/L |

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, antimony, barium, beryllium, cadmium, calcium, cobalt, iron, lead, manganese, potassium, silver, vanadium and zinc

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-202**

**TO :** **R. KOTUN** **DATE:** **MAY 13, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS, CYANIDE AND TOC**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO011**

**SAMPLES:** 20/Sediments/

| | | |
|---|---|---|
| 11SD1020001 | 11SD1030001 | 2SD1000001 |
| 2SD1010001 | 2SD1020001 | 2SD1030001 |
| 2SD1040001 | 2SD1050001 | 2SD1060001 |
| 2SD1070001 | 2SD1080001 | 2SD1090001 |
| 2SD1090002 | 2SD1100001 | 2SD1110001 |
| 2SD1120001 | 2SD1130001 | 9SD1060001 |
| 9SD1070001 | 9SD1080001 | |

Overview

The sample set for SDG WO011, NSWC White Oak, consists of twenty (20) sediment samples. One (1) field duplicate pair (2SD1090001 / 2SD1090002) was included within this SDG.

All samples were analyzed for target analyte list (TAL) metals, cyanide and total organic carbon (TOC). The samples were collected by Tetra Tech NUS on January 18 and 19, 1999 and analyzed Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology. TOC analyses were conducted using the Walkley-Black method.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for copper was >110% quality control limit. The positive results <2X CRDL reported for copper were qualified as biased high, "K".

- The CRDL %Rs for selenium and thallium were <90% quality control limit. The positive results <2X CRDL reported for selenium were qualified as biased low, "L". The nondetected results reported for selenium and thallium were qualified as biased low, "UL".

- The following contaminants were detected in the laboratory method blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| Aluminum | 116.6µg/L | 116.6 mg/kg |
| Barium | 0.9µg/L | 0.9 mg/kg |
| Beryllium | 0.9µg/L | 0.9 mg/kg |
| Cadmium | 0.3Ug/L | 0.3 mg/kg |
| Calcium | 35.29µg/L | 176.455 mg/kg |
| Chromium | 1.0µg/L | 1.0 mg/kg |
| Cobalt | 1.1µg/L | 1.1 mg/kg |
| Iron | 62.1µg/L | 62.1 mg/kg |
| Magnesium | 107.4µg/L | 107.4 mg/kg |
| Manganese | 0.9µg/L | 0.9 mg/kg |
| Potassium | 56.9µg/L | 56.9 mg/kg |
| Sodium | 200.5µg/L | 200.5 mg/kg |
| Vanadium | 1.0µg/L | 1.0 mg/kg |

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for beryllium, cadmium, cobalt and sodium were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recoveries (%Rs) for antimony, lead and selenium were <75% quality control limit. The positive results reported for antimony, lead and selenium were qualified as biased low, "L". The nondetected results reported for antimony and selenium were qualified as biased low, "UL".

- Laboratory duplicate imprecision (>35%) was noted for chromium. The positive results reported for chromium were qualified as estimated, "J". The direction of bias could not be determined.

- Field duplicate imprecision (>50%) was noted for manganese. The positive results reported for manganese were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP Serial Dilution Percent Difference (%D) for zinc was >10% quality control limit. The positive results reported for zinc were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The CRDL %R lead was <90% quality control limit. However, no validation action was required as all results reported for lead were >2X CRDL.

The Laboratory Control Sample (LCS) Percent Recovery (%R) for cyanide was >120% quality control limit. However, no validation action was required as all results reported for cyanide were nondetected.

A comparison of field duplicate pair (2SD1090001 / 2SD1090002 ) is included in Appendix C.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %R for antimony, lead and selenium were <75% quality control limit. Laboratory duplicate imprecision was noted for chromium. Field duplicate imprecision was noted for manganese. The ICP Serial Dilution %D for zinc was >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A. Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-085**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 21, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TOTAL AND DISSOLVED TAL METALS AND CYANIDE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO022**

**SAMPLES:** 21/Aqueous/

| | |
|---|---|
| 3GW78D0001 | 4GW1100001 |
| 5GW020001 | 5GW020001-F |
| 9GW010001 | 9GW019901 |
| 9GW020001 | 9GW050001 |
| 9GW050001-F | 9GW1010001 |
| 9GW1030001 | 9GW1039901 |
| 9GW1070001 | 9GW1080001 |
| 9GW57D0001 | 9GW57S0001 |
| 9GW57S0001-F | 9GW580001 |
| 9GW580001-F | AB022299 |
| AB022299-F | |

Overview

The sample set for SDG WO022, NSWC White Oak, consists of nineteen (19) aqueous environmental samples and two (2) ambient blank samples (AB022299 and AB022299-F). Two (2) field duplicate pairs (9GW010001 / 9GW019901 and 9GW1030001 / 9GW1039901) were included within this SDG.

All samples, with exception to sample 4GW1100001 and those samples designated –F, were analyzed for target analyte list (TAL) metals and cyanide. Sample 4GW1100001 was analyzed for TAL metals. The samples designated with –F were analyzed for dissolved TAL metals. The samples were collected by Tetra Tech NUS on February 20-22, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation/field blanks, interference check sample (ICS) results, matrix spike results, laboratory duplicate results, field duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All TAL metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

None.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for antimony was >110% quality control limit. The positive result <2X CRDL reported for antimony was qualified as biased high, "K"

- The CRDL %R for cadmium was both above and below the 90-110% quality control limit. The nondetected results reported for cadmium were qualified as estimated, "UJ", as a result of conflicting noncompliances.

- The following contaminants were detected in the laboratory method / preparation / field blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 57.6µg/L | 288µg/L |
| Arsenic | 1.8µg/L | 9.0µg/L |
| Barium | 0.7µg/L | 3.5µg/L |
| Beryllium | 0.6µg/L | 3.0µg/L |
| Cadmium(1) | 4.570µg/L | 22.85µg/L |
| Calcium | 41.9µg/L | 209.5µg/L |
| Chromium | 3.6µg/L | 18.0µg/L |
| Iron(2) | 22.8µg/L | 114µg/L |
| Magnesium | 48.0µg/L | 240µg/L |
| Manganese | 1.0µg/L | 5.0µg/L |
| Potassium | 496.8µg/L | 2484µg/L |
| Silver | 2.8µg/L | 14.0µg/L |
| Sodium(2) | 270µg/L | 1350µg/L |
| Thallium(1) | 3.260µg/L | 16.3µg/L |
| Vanadium | 3.8µg/L | 19.0µg/L |
| Zinc(2) | 2.7µg/L | 13.5µg/L |

(1) Maximum concentration found in an aqueous preparation blank.
(2) Maximum concentration found in a field quality control blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive results < the action level for aluminum, arsenic, beryllium, cadmium, calcium, chromium, iron, manganese, potassium, silver, thallium, vanadium and zinc were qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the

action level or were nondetects. It should be noted that field quality control samples are not qualified for field blank contamination.

- The interfering analytes aluminum and iron were present in sample 9GW57S0001 at concentrations which were comparable to the level of aluminum and iron in the Interference Check Sample (ICS) solution. Several analytes namely arsenic, barium, cadmium, chromium, cobalt, lead, manganese, nickel, selenium, sodium, thallium and vanadium were present in the ICS solution at concentrations which exceeded the Instrument Detection Limit (IDL). Interference affects exist for cadmium, cobalt, nickel and selenium in the affected sample. The nondetected result reported for cadmium was qualified as estimated, "UJ". The positive results reported for cobalt and selenium were qualified as biased high, "K". The positive result reported for nickel was qualified as biased low, "L".

- The ICP Serial Dilution Percent Difference (%D) for iron affecting the total metals was >10% quality control limit. The positive results reported for iron in the affected samples were qualified as estimated, "J". The direction of bias could not be determined.

Notes

A comparison of field duplicate pairs (9GW010001 / 9GW019901 and 9GW1030001 / 9GW1039901) is included in Appendix C.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for antimony and cadmium were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation/field blanks.

**Other Factors Affecting Data Quality:** The interfering analytes aluminum and iron were present in sample 9GW57S001. The ICP Serial Dilution %D for iron affecting the total metals was >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

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Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-02-9-095**

**TO:** **R. KOTUN** **DATE:** **APRIL 21, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, PH, ACID-INSOLUBLE SULFIDE, BOD, FERROUS IRON, TOC, COD AND HEXAVALENT CHROMIUM**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO007**

**SAMPLES:** 4/Soil/

2SS1110100 2SS1140100 2SS1210100
2SS1240100

1/Aqueous/

9TW001-00-01

Overview

The sample set for SDG WO007, NSWC White Oak, consists of four (4) soil environmental samples and one (1) aqueous environmental sample.

The soil samples were analyzed for acid-insoluble sulfide, biological oxygen demand (BOD), ferrous iron, total organic carbon (TOC), chemical oxygen demand (COD), hexavalent chromium and pH. The aqueous sample was analyzed for target analyte list (TAL) metals and cyanide. The samples were collected by Tetra Tech NUS on December 20 and 21, 1998 and analyzed by Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM04.0 methodology. pH analyses were conducted using SW 846 method 9045C. Acid-insoluble sulfide analyses were conducted using SW 846 method 9030A. BOD analyses were conducted using MCAWW method 405.1. Ferrous iron analyses were conducted using SM18 method 3500-FE D. TOC analyses were conducted using the Walkley-Black method. COD analyses were conducted using MCAWW method 410.4. Hexavalent chromium analyses were conducted using SW 846 method 7196A.

Summary

All analytes, with exception to those designated "UR", were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post digestion spike recoveries, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA.

Areas of concern with respect to data quality are listed below.

Major Problems

- The holding time for BOD analyses was exceeded by 7 days from collection to preparation. The nondetected results reported for BOD were qualified as rejected, "UR".

Minor Problems

- The holding time for BOD analyses was exceeded by 7 days from collection to preparation. The positive results reported for BOD were qualified as biased low, "L".

- The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations :

Samples Affected: All

| Analyte | Maximum Concentration | Action Level (aqueous) |
|---|---|---|
| Aluminum | 57.8µg/L | 289µg/L |
| Barium | 0.7µg/L | 3.5µg/L |
| Beryllium | 0.7µg/L | 3.5µg/L |
| Cadmium | 0.3µg/L | 1.5µg/L |
| Calcium[1] | 87.448 µg/L | 437.24µg/L |
| Chromium | 2.2µg/L | 11.0µg/L |
| Cobalt | 0.7µg/L | 3.5µg/L |
| Iron[1] | 77.633µg/L | 388.165µg/L |
| Magnesium | 71.1µg/L | 355.5µg/L |
| Manganese[1] | 1.583µg/L | 7.915µg/L |
| Nickel | 1.9µg/L | 9.5µg/L |
| Potassium | 86.0µg/L | 430µg/L |
| Selenium | 3.4µg/L | 17.0µg/L |
| Thallium | 5.9µg/L | 29.5µg/L |

[1] Maximum concentration found in an aqueous preparation blank.

An action level of 5x the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive result < the action level for thallium was qualified, "B", as a result of blank contamination. No validation action was required for the remaining analytes since either the results were greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recovery (%R) for antimony affecting the aqueous matrix was <75% quality control limit. The nondetected result reported for antimony in the affected sample was qualified as biased low, "UL".

- The MS %R for lead affecting the aqueous matrix was >125% quality control limit. The positive result reported for lead in the affected sample was qualified as estimated, "J", as a result of conflicting noncompliances.

- The MS %R for ferrous iron affecting the soil matrix was <75% quality control limit. The nondetected results reported for ferrous iron in the affected samples were qualified as biased low, "UL".

- The MS %R for hexavalent chromium affecting sample 2SS110100 was <30% quality control limit. The positive result reported for hexavalent chromium in the affected sample was qualified as estimated, "J", as a result of conflicting noncompliances.

- Laboratory duplicate imprecision (>20%) was noted for aluminum, lead and zinc affecting the aqueous matrix. The positive results reported for aluminum, lead and zinc in the affected sample were qualified as estimated, "J". The direction of bias could not be determined.

Notes

The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for selenium and thallium affecting the aqueous matrix was >110% quality control limit. However, no validation action was required as the results reported for selenium and thallium in the affected sample were either qualified, "B", as a result of blank contamination or were >2X CRDL.

MS %R noncompliance was restricted to sample 2SS1110100 because it was proven to be the only oxidizing sample within this SDG. All other samples were proven to be reducing and therefore could not be qualified based on the given MS information.

Executive Summary

**Laboratory Performance:** The holding time for BOD was exceeded by 7 days from collection to preparation. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %Rs for antimony and lead affecting the aqueous matrix were outside the 75-125% quality control limit. The MS %R for ferrous iron affecting the soil matrix was <75% quality control limit. The MS %R for hexavalent chromium affecting sample 2SS1110100 was <30% quality control limit. Laboratory duplicate imprecision was noted for aluminum, lead and zinc affecting the aqueous matrix.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-221**

| | | | |
|---|---|---|---|
| **TO :** | **R. KOTUN** | **DATE:** | **APRIL 23, 1999** |
| **FROM:** | **GRETCHEN A. PHIPPS** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION –TAL METALS, CYANIDE, TOC, ACID-INSOLUBLE SULFIDE, BOD, COD, FERROUS IRON, HEXAVALENT CHROMIUM AND PH**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUP SDG – WO015**

**SAMPLES:** 2/Aqueous/

RB006 RB007

8/Sediments/

| | | |
|---|---|---|
| PBSD1000001 | PBSD1000002 | PBSD1010001 |
| PBSD1010002 | PBSD1020001 | PBSD1030001 |
| PBSD1030002 | PBSD1040001 | |

Overview

The sample set for SDG WO015, NSWC White Oak, consists of eight (8) sediment environmental samples. Two (2) rinsate blanks (RB006 and RB007) and three (3) field duplicate pairs (PBSD1000001 / PBSD1000002, PBSD1010001 / PBSD1020001 and PBSD1030001 / PBSD1030002) were included within this SDG.

All samples were analyzed for target analyte list (TAL) metals, cyanide and total organic carbon (TOC). The rinsate blanks were also analyzed for acid-insoluble sulfide, biochemical oxygen demand (BOD), chemical oxygen demand (COD), ferrous iron, hexavalent chromium and pH. The samples were collected by Tetra Tech NUS on January 25 and 26, 1999 and analyzed by Quanterra Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals and cyanide analyses were conducted using ICLP ILM03.0/4.0 methodology. TOC analyses were conducted using MCAWW EPA method 415.1. Acid-insoluble sulfide analyses were conducted using SW 846 method 9030A. BOD analyses were conducted using MCAWW EPA method 405.1. COD analyses were conducted using MCAWW DPA method 410.4. Ferrous iron analyses were conducted using SM18 method 3500. Hexavalent chromium analyses were conducted using SW 846 method 7196A. pH analyses were conducted using MCAWW EPA method 150.1.

Summary

All analytes, with exception to those qualified as rejected, "UR", were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, post

Executive Summary

**Laboratory Performance:** The holding time for cyanide reanalysis was exceeded by ten (1) days. The CRDL %Rs for several analytes were outside the 90-110% quality control limit. Several analytes were present in the laboratory method/preparation/rinsate blanks.

**Other Factors Affecting Data Quality:** The MS %Rs for lead and manganese were >125% quality control limit. Laboratory duplicate imprecision was noted for TOC. Field duplicate imprecision was noted for iron and TOC. The ICP Serial Dilution %Ds for potassium and zinc were >10% quality control limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-214**

**TO :** **R. KOTUN** **DATE:** **APRIL 23, 1999**

**FROM:** **GRETCHEN A. PHIPPS** **COPIES:** **DV FILE**

**SUBJECT:** **MISCELLANEOUS DATA VALIDATION –AMMONIUM PERCHLORATE**
**CTO 298 – NSWC WHITE OAK, MD**
**SAMPLE DELIVERY GROUPS – 9901039, 9901145 AND 9901179**

**SAMPLES:** **SDG 9901039**

1/Aqueous/

9TW0020001

**SDG 9901145**

6/Aqueous/

| | | |
|---|---|---|
| 8GW330001 | 8GW340001 | 8GW350001 |
| 8GW360001 | 8GW530001 | 8GWB10001 |

**SDG 9901179**

6/Aqueous/

| | | |
|---|---|---|
| 7GW1020001 | 7GW1029901 | 7GW1030001 |
| 7GW1050001 | 7GW410001 | 7GW419901 |

Overview

The sample set for SDGs 9901039, 9901145 and 9901179, NSWC White Oak, consists of thirteen (13) aqueous environmental samples. Two (2) field duplicate pairs ( 7GW1020001 / 7GW1029901 and 7GW410001 / 7GW419901) were included within this SDG.

The samples were analyzed for ammonium perchlorate. The samples were collected by Tetra Tech NUS January 11, 20 and 25, 1999 and analyzed by GP Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Ammonium perchlorate analyses were conducted using EPA method 3000.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, calibration data, laboratory blanks, laboratory duplicate results, matrix spike results, field duplicate results, detection limits and analyte quantitation.

Areas of concern with respect to data quality are listed below.

Major Problems - None.

Minor Problems

The Initial Calibration Verification (ICV) Percent Recoveries (%Rs) for ammonium perchlorate were <90% quality limit. The positive and nondetected results reported for ammonium perchlorate were qualified as biased low, "L" and "UL", respectively.

Notes

A comparison of field duplicate pairs (7GW1020001 / 7GW1029901 and 7GW410001 / 7GW419901) is included in Appendix C.

Executive Summary

**Laboratory Performance:** The ICV %S for ammonium perchlorate were <90% quality control limit.

**Other Factors Affecting Data Quality: :** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Gretchen A Phipps

Tetra Tech NUS
Gretchen A. Phipps
Chemist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
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3. Appendix C - Support Documentation

**Data Qualifier Key:**

L - Positive result is considered biased low, "L", as a result of technical noncompliances.

UL - Nondetected result is considered biased low, "UL", as a result of technical noncompliances.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-01-9-201**

**TO:** **R. KOTUN** **DATE:** **APRIL 23, 1999**

**FROM:** **TERRI L. SOLOMON** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION - TAL METALS AND CYANIDE**
**CTO 298-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – WO001**

**SAMPLES:** 20/Soils/

| | | | |
|---|---|---|---|
| 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 |
| 3SD1040001 | 4SS1000100 | 4SS1010100 | 4SS1010300 |
| 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
| 4SS1060100 | 4SU1000200 | 4SU1010200 | 4SU1020200 |
| 4SU1030200 | 4SU1040200 | 4SU1050200 | 4SU1060200 |

Overview

The sample set for CTO 298, NSWC White Oak, SDG WO001, consists of twenty (20) soil environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for Target Analyte List (TAL) metals and cyanide. The samples were collected by Tetra Tech NUS on November 17, 18 and 19, 1998 and analyzed by Quanterra - North Canton under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. All analyses were conducted using Contract Laboratory (CLP) Statement of Work (SOW) ILMO4.0 analytical and reporting protocols.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, interference check samples (ICS), laboratory duplicate results, matrix spike recoveries, post digestion spike recoveries, laboratory control sample (LCS) results, ICP serial dilution results, detection limits and analyte quantitation.

All analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using cold vapor AA. Cyanide analyses were conducted using wet chemistry methods.

Areas of concern with respect to data quality are listed below.

Minor Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for selenium exhibited recoveries both above and below the 90-110% quality control limits. Nondetected results reported for the aforementioned analyte were qualified as estimated, "UJ". The direction of bias could not be determined.

- The following contaminants were detected in the laboratory method/ preparation blanks at the following maximum concentrations:

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| aluminum | 66.3 ug/L | 66.3 mg/kg |
| antimony | 5.1 ug/L | 5.1 mg/kg |
| barium | 1.0 ug/L | 1.0 mg/kg |
| beryllium | 1.1 ug/L | 1.1 mg/kg |
| cadmium | 0.5 ug/L | 0.5 mg/kg |
| calcium(1) | 59.775 mg/kg | 298.875 mg/kg |
| chromium | 1.1 ug/L | 1.1 mg/kg |
| cobalt | 1.1 ug/L | 1.1 mg/kg |
| copper | 1.0 ug/L | 1.0 mg/kg |
| iron | 65.5 ug/L | 65.5 mg/kg |
| lead | 2.0 ug/L | 2.0 mg/kg |
| magnesium(1) | 19.919 mg/kg | 99.595 mg/kg |
| manganese(1) | 0.266 mg/kg | 1.33 mg/kg |
| nickel | 2.2 ug/L | 2.2 mg/kg |
| potassium | 62.4 ug/L | 62.4 mg/kg |
| selenium | 5.6 ug/L | 5.6 mg/kg |
| silver | 0.7 ug/L | 0.7 mg/kg |
| sodium | 112.0 ug/L | 112.0 mg/kg |
| thallium | 6.1 ug/L | 6.1 mg/kg |
| vanadium | 1.3 ug/L | 1.3 mg/kg |
| zinc(1) | 3.520 mg/kg | 17.6 mg/kg |

Samples Affected: All

(1) Maximum concentration found in a soil preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample percent solids, aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for antimony, beryllium, cadmium, calcium, lead, potassium, selenium, silver, sodium, and zinc have been qualified, "B", as a result of blank contamination. No validation action was taken for the remaining analytes since the results were either greater than the action level or were nondetects.

- The Matrix Spike (MS) Percent Recoveries (%Rs) for antimony and manganese were <75% the quality control limit. The positive results and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The MS %R for copper was < 30% quality control limit. The positive results reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances.

- The MS %R for selenium was < 75% quality control limit. The nondetected results reported for the aforementioned analyte were qualified as estimated, "UJ", as a result of conflicting noncompliances.

- Laboratory duplicate imprecision(> 35%) was noted for aluminum, chromium, copper, iron, lead, nickel and zinc. The positive results reported for the aforementioned analytes were qualified as estimated, "J". The direction of bias could not be determined.

Notes

It should be noted that the cyanide samples were originally analyzed within holding times but the initial and some continuing calibrations were outside the 90-110% quality control limits and a laboratory control standard was not analyzed. The laboratory reanalyzed the samples approximately 32 days outside of hold time. The original results were selected for validation purposes.

The CRDL %Rs for lead, manganese, thallium and zinc were outside the 90-110% quality control limits. However, no validation actions were warranted as all results were either qualified for blank contamination, > 2X CRDL or were nondetected results.

The post digestion spike %R for manganese was > 125% quality control limit. However, no validation actions were required as per Region III guidance.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limits. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %Rs for antimony, copper, manganese and selenium were < 75% quality control limits. Laboratory duplicate imprecision was noted for aluminum, chromium, copper, iron, lead, nickel and zinc.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**C-PITT 03-9-127**

**TO:** **RON KOTUN** **DATE:** **MAY 12, 1999**

**FROM:** **SEAN NIXON** **COPIES:** **DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – VOAS, SVOAS, PESTICIDES/PCBS, AND EXPLOSIVES**
**CTO 298 NSWC WHITE OAK, PENNSYLVANIA**
**SDG – WO001**

**SAMPLES:** 20/Solid

| | | | | | |
|---|---|---|---|---|---|
| 3SD1000001 | 3SD1010001 | 3SD1020001 | 3SD1030001 | 3SD1040001 | 4SS1000100 |
| 4SS1010100 | 4SS1010300 | 4SS1020100 | 4SS1030100 | 4SS1040100 | 4SS1050100 |
| 4SS1060100 | 4SU1000200 | 4SU1010200 | 4SU1020200 | 4SU1030200 | 4SU1040200 |
| 4SU11050200 | 4SU1060200 | | | | |

Overview

The sample set for CTO 298 NSWC White Oak, Pennsylvania SDG WO001, consists of twenty (20) solid environmental samples. One field duplicate pair , 4SS1010300/4SS1010100, was included in this SDG. The field crew specified sample 4SS1010100 for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) analysis.

All of the samples were analyzed for selected Target Compound List (TCL) volatiles, semivolatiles, pesticides/PCBs, and explosives. The samples were collected by Tetra Tech NUS on November 17-19, 1998 and analyzed by Quanterra under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. The VOAs, SVOAs, and pesticides/PCBs analyses were conducted according to Contract Laboratory Procedure (CLP) OLM03.2, and the explosives were analyzed according to SW-846 Method 8330.

Summary

All analytes were successfully analyzed with the exception of those compounds that were rejected. The findings offered in this report were based upon a general review of all available data including data completeness, holding times, calibration data, laboratory and field quality control blank results, GC/MS tuning and performance, Matrix Spike (MS)/ Matrix Spike Duplicate (MSD) analyses, surrogate spike recoveries, Laboratory Control Sample (LCS) analyses, field duplicate results, compound identification and quantification, and detection limits.

Areas of concern with respect to data quality are listed below.

MAJOR PROBLEMS

Semivolatiles

- Sample 3SD1000001 yielded surrogate Percent Recoveries (%Rs) below the 10% quality control limit for all of the surrogates. The sample was re-extracted (21 days in exceedance of the 7 day holding time) and reanalyzed. The reanalysis achieved acceptable surrogate recoveries. Because the re-extraction grossly exceeded the holding time, the original analysis was chosen for data validation purposes. The nondetected results reported in the aforementioned sample were rejected, UR, while the positive results were qualified as estimated, J.

- The MS/MSD analysis of sample 3SD1010100 yielded %Rs below the 10% quality control limit for 2,4-dinitrophenol, 4-nitrophenol, 2,4-dinitrotoluene, and pentachlorophenol. The nondetected results for the aforementioned compounds were rejected, UR, in sample 3SD1010100.

Pesticides

- The following positive results in the following samples were rejected, R, for Percent Differences (%Ds) between analytical columns in exceedance of the 100% quality control limit:

| | |
|---|---|
| 3SD1030001 | Dieldrin |
| 4SS1000100 | alpha-Chlordane, Endosulfan I |
| 4SS1010100 | Dieldrin |
| 4SS1010300 | Dieldrin |
| 4SS1020100 | Endosulfan I |
| 4SS1030100 | Endosulfan I, II |
| 4SS1040100 | Endosulfan II |
| 4SS1050100 | alpha-Chlordane |
| 4SU1000200 | Endosulfan I |
| 4SU1010200 | 4,4'-DDT, Aldrin, Dieldrin, gamma-Chlordane |
| 4SU1030200 | 4,4'-DDE, Aldrin, Endosulfan II |
| 4SU1050200 | alpha-Chlordane, Dieldrin |

- The MS/MSD analysis of sample 4SS1010100 yielded a %R below the 10% quality control limit for Endrin. The nondetected result for Endrin was rejected, UR, in sample 4SS1010100.

MINOR PROBLEMS

Semivolatiles

- The following contaminants were detected in the preparation blank:

| Analyte | Maximum Concentration | Solid Action level |
|---|---|---|
| 1,4-Dichlorobenzene | 18 ug/kg | 90 ug/kg |
| Di-n-butylphthalate | 69 ug/kg | 690 ug/kg |

Sample aliquot, dilution factors, and percent solid were taken into consideration when applying the action levels. Positive results for 1,4-dichlorobenzene and di-n-butylphthalate reported below the action levels were considered false positives and qualified, (B).

Pesticides/PCBs

- The following contaminant was detected in the preparation blank:

| Analyte | Maximum Concentration | Solid Action level |
|---|---|---|
| Methoxychlor | 1.7 ug/kg | 8.5 ug/kg |

Samples Affected: All.

Sample aliquot, dilution factors, and percent solid were taken into consideration when applying the action levels. Positive results for Methoxychlor reported below the action level were considered false positives and qualified, (B).

- Samples 3SD1000001, 4SU1000200, 4SU1060200, and 4SU1040200 yielded surrogate %Rs below the 60% quality control limit for both surrogates on both columns. The nondetected results were qualified as biased low, UL, while the positive results were qualified as estimated, J, in the aforementioned samples.

- Samples 4SU1030200 and 4SS1040100 yielded surrogate %Rs below the 60% quality control limit for tetrachloro-m-xylene and decachlorobiphenyl on column RTX-5. The nondetected results were qualified as biased low, UL, while the positive results were qualified as estimated, J, in the aforementioned samples.

- Sample 4SU1020200 yielded surrogate %Rs below the 60% quality control limit for tetrachloro-m-xylene on column RTX-1701 and for decachlorobiphenyl on both analytical columns. The nondetected results were qualified as biased low, UL, while the positive results were qualified as estimated, J, in the aforementioned sample.

- The following samples contained positive results for the following compounds that were qualified as estimated, J, as a result of analytical column %Ds in exceedance of the 25% quality control limit.

| | |
|---|---|
| 3SD1010001: | Dieldrin, Endosulfan I, gamma-Chlordane, Aroclor 1254 |
| 3SD1020001: | Dieldrin, Endosulfan I, Aroclor 1254 |
| 3SD1030001: | Aroclor 1254 |
| 3SD1040001: | Dieldrin, gamma-Chlordane, Aroclor 1260 |
| 4SS1010100: | alpha-Chlordane, Aroclor 1260 |
| 4SS1040100: | alpha-Chlordane, Dieldrin |
| 4SS1050100: | Dieldrin |
| 4SU1010200: | 4,4'-DDD |
| 4SU1040200: | Endosulfan I, Aroclor 1260 |
| 4SS1020100: | Aroclor 1260 |

Notes

Positive results reported below the Contract Required Quantitation Limits (CRQL) were qualified as estimated, (J).

Several samples reported elevated detection limits as a result of matrix interference for semivolatiles and pesticide/PCBs.

A semivolatile continuing calibration contained %Ds above the 25% quality control limit for 2,2'-oxybis(1-chloropropane), N-nitroso-di-n-propylamine, and 2,4-dinitrophenol. Because only nondetected results were reported for the aforementioned compounds in the affected samples, no action was taken.

Tentatively Identified Compounds (TICs) detected in the semivolatile preparation blank resulted in the blank qualification of those TICs in the samples.

The volatile TIC hexamethyl cyclotrisiloxane was eliminated as a TIC from some samples because it is a product of column breakdown and should not be attributed to the sample.

Executive Summary

**Laboratory Performance:** Nondetected results for semivolatiles in sample 3SD1000001 were rejected as a result of poor surrogate %R. Nondetected results for 2,4-dintrophenol, 4-nitrophenol, 2,4-dinitrotoluene, and pentachlorophenol were rejected in sample 3SD1010100 as a result of poor MS/MSD %R. The nondetected result for Endrin in sample 4SS1010100 was rejected for poor MS/MSD %R. Several pesticides/PCB compounds were rejected for gross %Ds between analytical columns in several samples. Blank contamination was noted for Methoxychlor.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Data Validation", September 1994 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Sean T. Nixon
Chemist/Data Validator
Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer
Tetra Tech NUS

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-05-9-100**

| | | | |
|---|---|---|---|
| **TO:** | **R. KOTUN** | **DATE:** | **MAY 13, 1999** |
| **FROM:** | **TERRI L. SOLOMON** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION - TAL METALS AND CYANIDE**
**CTO 180-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – METALS5**

**SAMPLES:** 11/Soils/

| | | | |
|---|---|---|---|
| 09-SB13-0810 | 09-SB14-1012 | 09-SB15-1214 | 09-SB03-CUT |
| 09-SB15-1214D | 09-SB02-1012 | 04-SB24 | 04-SB23 |
| 04-SB22 | 04-SB22D | 04-SB21 | |

4/Aqueous/

| | | | |
|---|---|---|---|
| RB04049501 | 04-SB23-R | 04-SB22-R | 04-SB21-R |

Overview

The sample set for CTO 180, NSWC White Oak, SDG METALS5, consists of eleven (11) soil environmental samples and four (4) rinsate blanks. Two (2) field duplicate pairs (09-SB15-1214 / 09-SB15-1214D and 04-SB22 / 04-SB22-D) were included within this SDG.

Samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT, 09-SB15-1214D, RB-040494-01 and 09-SB02-1012 were analyzed for Target Analyte List (TAL) metals and cyanide. The remaining samples were analyzed for TAL metals only. The samples were collected by Tetra Tech NUS on March 20, April 4, June 5 and 6,. 1995 and analyzed by GP Environmental under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. All analyses were conducted using Contract Laboratory (CLP) Statement of Work (SOW) ILMO3.0 analytical and reporting protocols.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation/ rinsate blanks, interference check samples (ICS), laboratory duplicate results, field duplicate results, matrix spike recoveries, post digestion spike recoveries, laboratory control sample (LCS) results, ICP serial dilution results, graphite furnace post digestion spike recoveries, detection limits and analyte quantitation.

All analyses, with the exception of cyanide, mercury, antimony, arsenic, lead, selenium, silver and thallium were conducted using Inductively Coupled Plasma (ICP) methodologies. Antimony, arsenic, lead, selenium, silver and thallium analyses were conducted using Graphite Furnace Atomic Absorption (GFAA) methodologies. Mercury analyses were conducted using cold vapor AA. Cyanide analyses were conducted using wet chemistry methods.

Areas of concern with respect to data quality are listed below.

Major Problems – None.

Minor Problems

- The Contract Required Detection Limit (CRDL) percent recoveries (%Rs) for beryllium and selenium affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D were < 90% quality control limit. Positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The CRDL %R for copper affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D was < 90% quality control limit. Positive results < 2X CRDL reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances.

- The CRDL %R for manganese affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D was > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances.

- The CRDL %Rs for aluminum, arsenic and magnesium affecting samples RB04049501 and 09-SB02-1012 were > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analytes were qualified as biased high, "K".

- The CRDL %Rs for manganese, nickel, selenium and zinc affecting samples RB04049501 and 09-SB02-1012 were < 90% quality control limit. Positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The CRDL %Rs for antimony and magnesium affecting samples 04-SB24, 04-SB23, 04-SB22, 04-SB22-D, 04-SB21, 04-SB23-R, 04-SB22-R and 04-SB21-R were >110% quality control limit. Positive results< 2X CRDL reported for the aforementioned analytes were qualified as biased high, "K".

- The CRDL %Rs for beryllium, cadmium, chromium, copper, lead, nickel and zinc affecting samples 04-SB24, 04-SB23, 04-SB22, 04-SB22-D, 04-SB21, 04-SB23-R, 04-SB22-R and 04-SB21-R were < 90% quality control limit. Positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The CRDL %Rs for vanadium affecting samples 04-SB24, 04-SB23, 04-SB22, 04-SB22-D, 04-SB21, 04-SB23-R, 04-SB22-R and 04-SB21-R exhibited recoveries both above and below the 90-110% quality control limits. Positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as estimated, "J" and "UJ", respectively. The direction of bias could not be determined.

- The following contaminants were detected in the laboratory method/ preparation/ rinsate blanks at the following maximum concentrations:

  Samples Affected: 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| aluminum | 80.1 ug/L | 40.05 mg/kg |
| cadmium | 3.1 ug/L | 1.55 mg/kg |
| mercury | 0.1 ug/L | 0.25 mg/kg |

Samples Affected: RB04049501 and 09-SB02-1012

| Analyte | Maximum Concentration | Action Level (soil) |
|---|---|---|
| aluminum(1) | 99.7 ug/L | 49.85 mg/kg |
| antimony(1) | 16.5 ug/L | 8.25 mg/kg |
| calcium(1) | 133 ug/L | 66.5 mg/kg |
| copper(2) | 1.588 mg/kg | 7.94 mg/kg |
| lead(1) | 2.4 ug/L | 1.2 mg/kg |
| magnesium(1) | 85.5 ug/L | 42.75 mg/kg |
| sodium(1) | 470 ug/L | 235 mg/kg |

Samples Affected: 04-SB24, 04-SB23, 04-SB22, 04-SB22-D, 04-SB21, 04-SB23-R, 04-SB22-R and 04-SB21-R

| Analyte | Maximum Concentration | Action Level (aqueous) | Action Level (soil) |
|---|---|---|---|
| aluminum | 175.0 ug/L | 875 ug/L | 87.5 mg/kg |
| antimony(4) | 2.0 ug/L | NA | 1.0 mg/kg |
| cadmium(2) | 0.338 mg/kg | NA | 1.69 mg/kg |
| calcium(2) | 17.322 mg/kg | NA | 86.61 mg/kg |
| calcium(3) | 159.2 ug/L | 796 ug/L | NA |
| cobalt(5) | 13.3 ug/L | NA | 6.65 mg/kg |
| lead(5) | 1.3 ug/L | NA | 0.65 mg/kg |
| mercury(5) | 0.48 ug/L | NA | 1.2 mg/kg |
| potassium(2) | 20.049 mg/kg | NA | 100.245 mg/kg |
| zinc(3) | 19.0 ug/L | 95.0 ug/L | NA |

(1) Maximum concentration present in a rinsate blank.
(2) Maximum concentration present in a soil preparation blank.
(3) Maximum concentration present in an aqueous preparation blank.
(4) Maximum concentration present in a rinsate blank affecting samples 04-SB22 and 04-SB22-D only.
(5) Maximum concentration present in a rinsate blank affecting sample 04-SB23 only.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample percent solids, aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for aluminum, antimony, calcium, cadmium, cobalt, mercury, potassium and zinc have been qualified, "B", as a result of blank contamination. No validation action was taken for the remaining analytes since the results were either greater than the action level or were nondetects. It should be noted that field quality control blanks are not qualified for field blank contamination.

- The matrix spike (MS) percent recoveries (%Rs) for antimony, lead and selenium affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D were < 75% quality control limit. The positive results and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The MS %R for manganese affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D was < 75% quality control limit. The positive results and nondetects reported for the aforementioned analyte were qualified as estimated, "J" and UJ", respectively, as a result of conflicting noncompliances.

- The MS %R for mercury affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D was < 30% quality control limit. The positive results reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances.

- The MS %R for selenium affecting sample 09-SB02-1012 was < 75% quality control limit. The nondetected result reported for the aforementioned analyte was qualified as biased low, "UL".

- The MS %R for silver affecting sample RB-040495-01 was < 75% quality control limit. The nondetected result reported for the aforementioned analyte was qualified as biased low, "UL".

- The MS %Rs for antimony and arsenic affecting samples 04-SB24, 04-SB23, 04-SB22, 04-SB22-D and 04-SB21 were < 75% quality control limit. The positive results and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The MS %R for mercury affecting samples 04-SB23-R, 04-SB22-R and 04-SB21-R was < 75% quality control limit. The positive results and nondetects reported for the aforementioned analyte were qualified as biased low, "L" and "UL", respectively.

- Laboratory duplicate imprecision (> 35%) was noted for mercury affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- Field duplicate imprecision (> 50%) was noted for aluminum, chromium, copper and iron affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP serial dilution percent difference (%D) for magnesium affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D was > 10% quality control limit. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- The GFAA post digestion spike recovery for selenium was < 85% quality control limit and the sample absorbance was < 50% of the spike absorbance for sample 04-SB22-D. The nondetected result reported for selenium in the affected sample was qualified as biased low, "UL".

Notes

The sample IDs on the Form Is were incomplete. The Form Is were amended.

The CRDL %Rs for cadmium and iron affecting samples 09-SB13-0810, 09-SB14-1012, 09-SB15-1214, 09-SB03-CUT and 09-SB15-1214D were > 110% quality control limits. However, no validation actions were warranted as all results were either qualified for blank contamination, were > 2X CRDL or were nondetects.

The CRDL %Rs for cadmium, copper and iron affecting samples RB-040495-01 and 09-SB02-1012 were > 110% quality control limit. However, no validation actions were warranted as all results were either > 2X CRDL or were nondetects.

The CRDL %Rs for aluminum, calcium, iron, manganese and selenium affecting samples 04-SB24, 04-SB23, 04-SB22, 04-SB22-D, 04-SB21, 04-SB23-R, 04-SB22-R and 04-SB21-R were > 110% quality control limit. However, no validation actions were warranted as all results were either qualified for blank contamination, were > 2X CRDL or were nondetects.

Samples 09-SB13-0810 and 09-SB14-1012, 09-SB02-1012 were analyzed at a 5X dilution for iron.

The MS %R for antimony affecting sample 09-SB02-1012 was < 75% quality control limit. However, no validation actions were warranted as the result reported for antimony was qualified for blank contamination.

The ICP serial dilution %D for zinc affecting sample RB04049501 was > 10% quality control limit. However, no validation actions were warranted as the result reported for zinc was nondetected.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limits. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** Several analytes were present in the rinsate blank. The MS %Rs for antimony, arsenic, lead, manganese, mercury, selenium and silver were < 75% quality control limit. Laboratory duplicate imprecision was noted for mercury. Field duplicate imprecision was noted for aluminum, chromium, copper and iron. The ICP serial dilution percent difference for magnesium was > 10% quality control limit. The GFAA post digestion spike recovery for selenium was < 85% quality control limit and the sample absorbance was < 50% of the spike absorbance for sample 04-SB22-D.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**C-PITT 03-9-165**

**TO:** **RON KOTUN** **DATE:** **MAY 14, 1999**

**FROM:** **SEAN NIXON** **COPIES:** **DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – VOAS, SVOAS, PESTICIDES/PCBS, AND EXPLOSIVES**
**CTO 298 NSWC WHITE OAK, PENNSYLVANIA**
**SDG – WO009**

**SAMPLES:** 13/Aqueous
11SW1000001 11SW1010001 9SW1000001 9SW1010001 9SW1020001 9SW1030001
9SW1040001 9SW1050001 9SW1050002 9TW0020001 TB011299 TB011399
TRPBLK

Overview

The sample set for CTO 298 NSWC White Oak, Pennsylvania SDG WO009, consists of thirteen (13) aqueous environmental samples including three (3) trip blanks. The field crew specified sample 9SW1050001 for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) analysis.

All of the samples were analyzed for selected Target Compound List (TCL) Low Concentration volatiles, Low Concentration semivolatiles, pesticides/PCBs, and explosives. The samples were collected by Tetra Tech NUS on January 11-13, 1999 and analyzed by Quanterra – North Canton under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. The VOAs and SVOAs analyses were conducted according to Contract Laboratory Procedure (CLP) OLC02.1, the pesticides/PCBs according to CLP OLM03.1, and the explosives were analyzed according to SW-846 Method 8330.

Summary

All analytes were successfully analyzed with the exception of those compounds that were rejected. The findings offered in this report were based upon a general review of all available data including data completeness, holding times, calibration data, laboratory and field quality control blank results, GC/MS tuning and performance, Matrix Spike (MS)/ Matrix Spike Duplicate (MSD) analyses, surrogate spike recoveries, Laboratory Control Sample (LCS) analyses, field duplicate results, compound identification and quantification, and detection limits.

Areas of concern with respect to data quality are listed below.

MAJOR PROBLEMS

Volatiles

- Initial and continuing calibrations contained Relative Response Factors below the 0.05 quality control limit for 2-butanone, 2-hexanone, and acetone. The nondetected results for the aforementioned compounds were rejected, UR, in the affected samples (all samples).

Semivolatiles

- No major problems were noted.

Pesticides

- The following positive results in the following samples were rejected, R, for Percent Differences (%Ds) between analytical columns in exceedance of the 100% quality control limit:

9SW1000001: Heptachlor
9SW1010001: Heptachlor
9SW1020001: Heptachlor
9SW1030001: Heptachlor
9SW1040001: Heptachlor
9SW1050001: Heptachlor
9SW1050002: Heptachlor
9TW0020001: beta-BHC, delta-BHC

Explosives

- No major problems were noted.

MINOR PROBLEMS

Volatiles

- The following contaminants were detected in the field quality control/method blanks:

| Analyte | Maximum Concentration | Aqueous Action level |
|---|---|---|
| Chloroform | 0.18 ug/L | 0.90 ug/L |
| Trichloroethene | 0.11 ug/L | 0.55 ug/L |
| Toluene | 0.16 ug/L | 0.80 ug/L |
| Chlorobenzene | 0.12 ug/L | 0.60 ug/L |
| Ethylbenzene | 0.12 ug/L | 0.60 ug/L |
| Total xylenes | 0.34 ug/L | 1.7 ug/L |
| 1,3-Dichlorobenzene | 0.14 ug/L | 0.70 ug/L |
| 1,4-Dichlorobenzene | 0.18 ug/L | 0.90 ug/L |
| 1,2-Dichlorobenzene | 0.14 ug/L | 0.70 ug/L |
| 1,2,4-Trichlorobenzene | 0.16 ug/L | 0.80 ug/L |
| Methylene chloride[1] | 2.5 ug/L | 25 ug/L |

Samples Affected: All.

1. maximum amount found in trip blank.

Sample aliquot and dilution factors were taken into consideration when applying the action levels. Positive results for 1,2,4-trichlorbenzene, chloroform, and methylene chloride reported below the action levels were considered false positives and qualified, (B). It should be noted that field quality control blanks were not qualified for field quality control blank contamination.

Semivolatiles

- The data were acceptable as reported by the laboratory.

Pesticides/PCBs

- The following contaminants were detected in the preparation/instrument blanks:

| Analyte | Maximum Concentration | Aqueous Action level |
|---|---|---|
| Heptachlor | 0.0047 ug/L | 0.0235 ug/L |
| Aldrin | 0.0019 ug/L | 0.0095 ug/L |
| Heptachlor epoxide | 0.00056 ug/L | 0.0028 ug/L |
| Dieldrin | 0.0082 ug/L | 0.041 ug/L |
| 4,4'-DDD | 0.0044 ug/L | 0.022 ug/L |
| 4,4'-DDE | 0.0018 ug/L | 0.009 ug/L |
| Endrin aldehyde | 0.010 ug/L | 0.05 ug/L |

Samples Affected: All.

Sample aliquot, dilution factors, and percent solid were taken into consideration when applying the action levels. Positive results for Heptachlor, Aldrin, Heptachlor epoxide, Dieldrin, 4,4'-DDD, and 4,4'-DDE reported below the action levels were considered false positives and qualified, (B).

- Samples 9TW00200001 yielded surrogate %Rs below the 60% quality control limit for decachlorobiphenyl on both columns. The positive and nondetected results were qualified as estimated, J and UJ, in the aforementioned sample.

- The following samples contained positive results for the following compounds that were qualified as estimated, J, as a result of analytical column %Ds in exceedance of the 25% quality control limit.

11SW1000001: beta-BHC, Endosulfan I, Endosulfan sulfate, gamma-Chlordane
11SW1010001: 4,4'-DDT, beta-BHC, Endosulfan I, Endosulfan sulfate, gamma-Chlordane
9SW1000001: 4,4'-DDT, alpha-BHC, alpha-Chlordane, beta-BHC, Endosulfan sulfate, gamma-Chlordane,
9SW1010001: 4,4'-DDT, alpha-BHC, alpha-Chlordane, beta-BHC, gamma-Chlordane, Aroclor 1232

Notes

Positive results reported below the Contract Required Quantitation Limits (CRQL) were qualified as estimated, (J).

Executive Summary

**Laboratory Performance:** Nondetected results for acetone, 2-butanone, and 2-hexanone were rejected for gross calibration noncompliances. Gross noncompliances of pesticide/PCB analytical column precision resulted in the rejection of positive results for Heptachlor, beta-BHC, and delta-BHC is several samples. Blank contamination was noted for 1,2,4-trichlorbenzene, chloroform, methylene chloride, Heptachlor, Aldrin, Heptachlor epoxide, Dieldrin, 4,4'-DDD, and 4,4'-DDE. Data imprecision resulted in the estimation of positive results for several pesticides/PCBs compounds in several samples.

**Other Factors Affecting Data Quality:** Low pesticide/PCB surrogate recovery resulted in the estimation of positive and nondetected results in sample 9TW00200001.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Data Validation", September 1994 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Sean T. Nixon
Environmental Scientist
Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer
Tetra Tech NUS

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 14, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/PEST/PCBEXPLOSIVES**
**CTO 298, NSWC WHITE OAK, MD**
**SDG WO010**

**SAMPLES:** 9/Solid/

| | | |
|---|---|---|
| 11SD1000001 | 11SD1010001 | 9SD1000001 |
| 9SD1010001 | 9SD1020001 | 9SD1030001 |
| 9SD1040001 | 9SD1050001 | 9SD1050002 |

OVERVIEW

The sample set for CTO 298, SDG WO010, NSWC White Oak, MD consists of none (9) solid environmental samples. All samples were analyzed for Target Compound List (TCL) volatile and semivolatile compounds, pesticide/PCBs, and explosives. No field duplicate pairs were included in the SDG.

The samples were collected by TetraTech NUS on January 12-13, 1999 and were analyzed by Quanterra Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP Statement of Work (SOW) OLMO3.2 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, GC/MS tuning and system performance, initial/continuing calibrations, laboratory method and field quality control blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, internal standard performance, tentatively identified compounds, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- Surrogate recovery of one or more acid surrogates fell below 10% in all the semivolatile samples. Nondetected acid results were rejected, UR.
- Matrix spike recovery of phenol, 2-chlorophenol, and 1,4-dichlorobenzene fell below 10%. Nondetected results in the unspiked sample, 9SD1050001, were rejected, UR.
- The percent difference between columns exceeded the 100% quality control limit for the compounds in the following samples. Positive results for these compounds were rejected, R.

| Sample | Compound | %D |
|---|---|---|
| 11SD1000001 | Dieldrin | 262.6% |
| | 4,4'-DDD | 999.9% |
| | 4,4'-DDT | 880.5% |
| | g-Chlordane | 681.2% |

| | | |
|---|---|---|
| 11SD1010001 | a-Chlordane | 111.7% |
| | 4,4'-DDD | 999.9% |
| | Endrin ketone | 999.9% |

Minor Problems

- A continuing calibration percent difference (%D) exceeded the 50% quality control limits for acetone. Nondetected results were qualified as estimated, UJ. The direction of bias cannot be determined.

- The following table summarizes the maximum concentration of compounds detected in the laboratory method and/or field quality control blanks (*) analyzed in this SDG.

| Compound | Maximum Concentration | Action Level |
|---|---|---|
| Bromomethane | 2 µg/Kg | 10 µg/Kg |

  Dilution factors, percent solids, and sample aliquot used for analysis were taken into consideration during the application of all action levels. Positive results reported as false positives as a result of blank contamination for bromomethane were qualified as B.

- Surrogate recovery fell below the 60% quality control limit for all four surrogates in pesticide samples 9SD1030001 and 9SD1050001. Nondetected results were qualified as biased low, UL. Positive results in sample 9SD1030001 were qualified as biased low, L.

- The percent difference between columns exceeded the 25% quality control limit for the compounds in the following samples. Positive results for these compounds were qualified as estimated, J. The direction of bias cannot be determined.

| Sample | Compound | %D |
|---|---|---|
| 11SD1000001 | PCB 1254 | 33.3% |
| 11SD1010001 | Dieldrin | 98.7% |
| | Endosulfan II | 58.0% |
| 9SD1000001 | a-Chlordane | 86.0% |
| 9SD1010001 | a-Chlordane | 35.5% |
| | PCB 1248 | 52.9% |
| | PCB 1260 | 50.0% |
| 9SD1020001 | PCB 1248 | 33.3% |
| | a-Chlordane | 44.9% |
| | g-Chlordane | 51.6% |
| 9SD1030001 | PCB 1248 | 42.3% |
| 9SD1050002 | PCB 1254 | 45.4% |

- Explosive samples 11SD1000001 and 11SD10100000 were extracted nine days after sample collection. Nondetected results were qualified as estimated, UJ. The direction of bias cannot be determined.

- Positive results reported below the Contract Required Quantitation Limit (CRQL) were qualified as estimated, (J). The direction of bias cannot be determined.

Notes

The compounds hexamethyl cyclotrisiloxane and 2-[(trimethylsilyl)oxy]-benzoic acid, tentatively identified in samples 9SD1000001 and 9SD1020001, respectively, are common column contaminants and should be considered as false positives.

Continuing calibration %Ds exceeded 25% but were less than 50% for 2-butanone, 4-methyl-2-pentanone, and 2-hexanone. Since the compounds were not detected in the samples, no qualifiers were assigned on this basis.

The two semivolatile laboratory method blanks had surrogate recoveries less than 10% for both acid and base fraction surrogates. The environmental samples also showed a pattern of acid recoveries less than 10% and were qualified appropriately. Base fraction surrogates were compliant in the environmental samples; therefore, no validation action was taken on this basis. The laboratory re-extracted and re-analyzed all the samples associated with the noncompliant method blanks; however, the re-extraction occurred 29 to 30 days after sample collection. Only the original sample results were used as the basis for data validation.

The compounds acetophenone, unknown(s), and aldol condensation products were tentatively identified in the semivolatile laboratory method blanks. Positive results for these compounds in the samples should be considered as false positives.

PCBs were tentatively identified in the semivolatile fractions of samples 11SD1000001 and 11SD1010001. PCBs 1254 and 1260 were detected in the pesticide analysis of these two samples.

Sample 11SD1000001 was re-analyzed at a 40X dilution due to the presence of PCB 1254 over the instrument's linear calibration range. The result from the dilution for this compound only was transposed over the undiluted sample result and used as the basis for data validation.

Samples 11SD1000001 and 11SD1010001 were analyzed and reported at 4X and 2X dilution factors, respectively, due to the presence of target compounds. This accounts for the elevated reporting limits seen for these samples.

Matrix spike recovery was low and relative percent differences were high for several compounds in the pesticide matrix spike. No action was required on this basis as per the Functional Guidelines.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:** Several volatile and semivolatile compounds failed to meet the initial %RSD and/or the continuing calibration %D criteria. Bromomethane was detected in the laboratory method blanks. Surrogate recoveries in the semivolatile and pesticide fraction failed to meet quality control limits. Several compounds failed to meet the percent difference between columns criteria in the pesticide fraction. Two explosive samples were extracted beyond holding time.

**Other Factors Affecting Data Quality:** The laboratory failed to report positive results for pesticide/PCB analysis below the CRQL. The laboratory was required to re-report the data taking into consideration positive results below the CRQL. This delayed completion of the data validation by approximately 25 days.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-04-9-014**

**TO:** **MR. R. KOTUN** **DATE: MAY 14, 1999**

**FROM:** **JUSTIN ORBICH** **CC: DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – VOA/SVOA/PEST/PCB/EXP**
**CTO 298, NSWC WHITE OAK**
**SDG WO018**

**SAMPLES:** 22/Aqueous

| | |
|---|---|
| 11GW1050001 | 11GW1060001 |
| 11GW1069901 | 11GW1070001 |
| 11GW1080001 | 11GW1090001 |
| 11GW1100001 | 11GW240001 |
| 11GW280001 | 11GW290001 |
| 11GW620001 | 11GW630001 |
| 11GW650001 | 11GW690001 |
| 11GW70D001 | 11GW720001 |
| 11GW850001 | 11GW880001 |
| 2GW1000001 | 2GW1009901 |
| TB020699 | TB020799 |

**Overview**

The sample set for CTO 298, SDG WO018, Naval Surface Warfare Center (NSWC), White Oak, consists of twenty-two (22) aqueous environmental samples, which includes two (2) trip blanks (designated TB). The samples were analyzed for low concentration Target Compound List (TCL) volatile, semivolatile, and pesticide/PCB. The samples were also analyzed for explosive organic compounds. The trip blanks were analyzed for TCL volatile low concentration organic compounds only. Two (2) field duplicate pairs (11GW1060001/11GW1069901 and 2GW1000001/2GW1009901) were included within this SDG.

The samples were collected by Tetra Tech, NUS on February 7th, 8th, and 9th, 1999, and analyzed by Quanterra Environmental Services. The samples were all analyzed under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) and according to U.S. EPA Contract Laboratory Program (CLP) OLC02.1 and SW 846 Method 8330 analytical and reporting protocols.

**Summary**

All compounds were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until extraction/analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, surrogate spike recoveries, Laboratory Control Sample (LCS) results, Matrix Spike/Matrix Spike Duplicate (MS/MSD) results, internal standard performance, compound identification and quantitation, detection limits, field duplicate precision, and Tentatively Identified Compound (TIC) evaluation.

Areas of concern with respect to data quality are listed below.

**Major Problems**

- In the volatile fraction, the initial and continuing calibration Relative Response Factors (RRFs) were below the 0.05 quality control limits for 2-butanone, 1,2-dibromo-3-chloropropane, and acetone. The nondetected results were qualified as rejected (UR) in the affected samples.

**Minor Problems**

- In the volatile fraction, the initial and continuing calibration RRFs were below the 0.05 quality control limit for acetone. The positive results were qualified as estimated (J), in the affected samples. The direction of bias is unknown.

- The following compounds were detected in the laboratory method and/or field quality control blanks at the maximum concentrations indicated below:

| Compound | Concentration | Aqueous Action Level |
|---|---|---|
| Bis(2-ethylhexyl)phthalate | 1.0µg/L | 10.0µg/L |

  Sample aliquots and dilution factors were taken into consideration during the application of the action level. Positive results for bis(2-ethylhexyl)phthalate reported at concentrations below the action level were qualified (B) as a result of blank contamination.

- In the pesticide/PCB fraction, the surrogate %Rs were below the quality control limits for tetrachloro-m-xylene and decachlorobiphenyl on all columns in sample 11GW240001. The nondetected results were qualified as biased low (UL), in the aforementioned samples.

- Positive results reported at concentrations below the Contract Required Quantitation Limits (CRQL) were qualified as estimated (J).

**Notes**

The following compounds were detected in the laboratory method and/or field quality control blanks at the maximum concentrations indicated below:

| Compound | Concentration | Aqueous Action Level |
|---|---|---|
| Benzene* | 0.30µg/L | 1.5µg/L |

*Maximum detection found in field quality control blank.

Sample aliquots and dilution factors were taken into consideration during the application of the action level. No action was warranted since only nondetected results were reported. It should be noted that field quality control blanks are not qualified based on field quality control blank contamination.

In the volatile fraction, the continuing calibration Percent Difference (%D) exceeded the 25% quality control limits for bromomethane. No action was warranted since the %D did not exceed 50% and only nondetected results were reported.

In the volatile fraction, sample 11GW1100001 was diluted 25X due to the presence of 1,2-dichloroethane, cis-1,2-dichloroethene, and trichloroethene above the calibration range of the instrument. The results from the dilution were transposed over the undiluted sample results and used for validation purposes.

In the volatile fraction, sample 11GW280001 was diluted 5X due to the presence tetrachloroethene above the calibration range of the instrument. The result from the dilution was transposed over the undiluted sample result and used for validation purposes.

In the semivolatile fraction, the continuing calibration %Ds exceeded the quality control limits for several compounds. No action was warranted since only nondetected results were reported, and the %Ds did not exceed 50%.

In the semivolatile fraction, the Laboratory Control Sample (LCS) Percent Recovery (%R) was below ten percent (10%) for 4-chloroaniline. The samples were re-extracted and re-analyzed within the quality control limits. However, the samples were re-extracted outside the holding time until extraction, therefore, the original analysis were used for validation purposes. No action was warranted since 4-chloroaniline was nondetected in the original and the reanalysis.

In the pesticide/PCB fraction, the Matrix Spike/Matrix Spike Duplicate (MS/MSD) Relative Percent Difference RPD exceeded the quality control limits for gamma-Chlordane. No action was warranted since only nondetected results were reported and no action is taken on MS/MSD data alone.

It should be noted in the pesticide/PCB fraction, sample 11GW1100001 results were inconsistent between the Form Is and the electronic data. The electronic data was amended to be consistent with the Form Is.

It should be noted in the pesticide/PCB fraction, the laboratory provided the incorrect surrogate %R quality control limits. The quality control limits were corrected on the Form II and qualified based upon the corrected quality control limits.

In the explosive fraction, the Matrix Spike/Matrix Spike Duplicate (MS/MSD) %R was below the quality control limit for tertyl. No action is taken since only nondetected results were reported and no action is taken on MS/MSD data alone.

It should be noted in the explosive fraction, several samples reported elevated detection limits for several compounds due to matrix interference.

## EXECUTIVE SUMMARY

***Laboratory Performance:*** In the volatile fraction, the initial and continuing calibration RRFs were below the 0.05 quality control limit for 2-butanone, 1,2-dibromo-3-chloropropane, and acetone. In the volatile and semivolatile fractions, the continuing calibration %D exceeded the quality control limits for several compounds. Benzene and bis(2-ethylhexyl)phthalate were detected as blank contaminants. In the volatile fraction, several compounds exceeded the linear calibration range of the instrument in samples 11GW1100001 and 11GW280001.

***Other Factors Affecting Data Quality:*** In the semivolatile fraction, the LCS %R was less than ten percent for 4-chloroaniline. In the pesticide/PCB fraction, the surrogate %Rs were below the quality control limits for tetrachloro-m-xylene and decachlorobiphenyl on all the columns. In the pesticide/PCB and explosive fractions, the MS/MSD %R was below the quality control limits for gamma-Chlordane and tertyl, respectively.

**MEMO TO: MR. R. KOTUN**
**DATE: MAY 14, 1999 – PAGE 4**

The data for these analyses were reviewed with reference to method specific quality control criteria, the "National Functional Guidelines for Organic Data Evaluation" (September 1994), and the NFESC Interim Guidance Document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (February 1996).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP).

Justin Orbich

Tetra Tech, NUS
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, NUS
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A Qualified Analytical Results
2. Appendix B Results as Reported by the Laboratory
3. Appendix C Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 14, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |
| **SUBJECT:** | **ORGANIC DATA VALIDATION- EXPLOSIVES<br>CTO 298, NSWC WHITE OAK, MD<br>SDG WO025** | | |
| **SAMPLES:** | 1/Aqueous/<br>9GW44-00-01 | | |

OVERVIEW

The sample set for CTO 298, SDG WO025, NSWC White Oak, MD consists of one (1) aqueous environmental sample analyzed for explosive compounds. No field duplicate pairs were included in the SDG.

The samples were collected by TetraTech NUS on March 3rd, 1999 and were analyzed by Quanterra Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None noted.

Minor Problems

- None noted.

Notes

All data quality parameters were met for this fraction.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. None.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-03-9-135**

**TO:** **MR. R. KOTUN** **DATE: MAY 14, 1999**

**FROM:** **JUSTIN ORBICH** **CC: DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION – VOA/SVOA/PEST/PCB/EXP**
**CTO 298, NSWC WHITE OAK**
**SDG WO013**

**SAMPLES:** 25/Aqueous

| | |
|---|---|
| 08GW360001 | 7GW1020001 |
| 7GW1029901 | 7GW1030001 |
| 7GW1050001 | 7GW410001 |
| 7GW419901 | 8GW330001 |
| 8GW340001 | 8GW350001 |
| 8GW530001 | 8GWB10001 |
| PBSW1000001 | PBSW1000002 |
| PBSW1010001 | PBSW1010002 |
| PBSW1020001 | PBSW1030001 |
| PBSW1030002 | TAPWATER01 |
| TB012099 | TB012199 |
| TB012299 | TB012399 |
| TB012599 | |

## Overview

The sample set for CTO 298, SDG WO013, Naval Surface Warfare Center (NSWC), White Oak, consists of twenty-five (25) aqueous environmental samples, which includes five (5) trip blanks (designated TB). The samples were analyzed for Target Compound List (TCL) volatile, semivolatile, pesticide/PCB, and explosive low concentration organic compounds. The trip blanks were analyzed for TCL volatile low concentration organic compounds only. Two (2) field duplicate pairs (7GW1020001/7GW1029901 and 7GW410001/7GW419901) were included within this SDG.

The samples were collected by Tetra Tech, NUS on January 20th, 21st, 22nd, 23rd, 25th, and 26th, 1999, and analyzed by Quanterra Environmental Services. The samples were all analyzed under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) and according to U.S. EPA Contract Laboratory Program (CLP) OLC02.1 and OLM03.2 and SW 846 Method 8330 analytical and reporting protocols.

## Summary

All compounds were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until extraction/analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, surrogate spike recoveries, Laboratory Control Sample (LCS) results, Matrix Spike/Matrix Spike Duplicate (MS/MSD) results, internal standard performance, compound identification and quantitation, detection limits, field duplicate precision, and Tentatively Identified Compound (TIC) evaluation.

**MEMO TO: MR. R. KOTUN**
**DATE: MAY 14, 1999 – PAGE 2**

Areas of concern with respect to data quality are listed below.

**Major Problems**

- In the volatile fraction, the initial and continuing calibration Relative Response Factors (RRFs) were below the 0.05 quality control limits for 1,2-dibromo-3-chloropropane and acetone. The nondetected results were qualified rejected (UR) in the affected samples.

- In the semivolatile fraction, the Matrix Spike/Matrix Spike Duplicate (MS/MSD) Percent Recovery (%R) was below ten percent (10%) for 4-chloroaniline in sample 7GW1050001. The nondetected result was qualified as rejected (UR) in the aforementioned sample.

**Minor Problems**

- In the volatile fraction, the initial and continuing calibration RRFs were below the 0.05 quality control limit for acetone. The positive results were qualified as estimated (J), in the affected samples. The direction of bias is unknown.

- The following compounds were detected in the laboratory method and/or field quality control blanks at the maximum concentrations indicated below:

| Contaminant | Concentration | Aqueous Action |
|---|---|---|
| Acetone* | 2.4µg/L | 24.0µg/L |

*Maximum detection found in field quality control blanks.

Sample aliquot and dilution factors were taken into consideration during the application of the action level. Positive results for acetone reported at concentrations below the action level were qualified (B) as a result of blank contamination. It should be noted that field quality control blanks are not qualified based on field quality control blank contamination.

- In the pesticide/PCB fraction, the surrogate %Rs were below the quality control limits for tetrachloro-m-xylene on both columns in samples 08GW360001, 08GW340001, 08GW350001, 08GW530001, and TAPWATER01. The nondetected results were qualified as biased low (UL), in the aforementioned samples.

- In the pesticide/PCB fraction, the Percent Difference Between Columns exceeded the 25% quality control limit for alpha-Chlordane in sample 7GW1050001. The positive result was qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- Positive results reported at concentrations below the Contract Required Quantitation Limits (CRQL) were qualified as estimated (J).

**Notes**

In the volatile fraction, the initial and continuing calibration Percent Relative Standard Deviation (%RSD) and Percent Difference (%D) exceeded the 30% and 25% quality control limits, respectively, for chloroethane. No action was warranted since the %RSD and %D did not exceed 50% and only nondetected results were reported.

In the volatile fraction, sample 7GW410001 was diluted 20X due to the presence of 1,1,2,2-tetrachloroethane, cis-1, 2-dichloroethene, and trichloroethene above the calibration range of the instrument. The results from the dilution were transposed over the undiluted sample results and used for validation purposes.

In the volatile fraction, elevated detection limits were reported due to a ten-fold dilution in samples 7GW1020001 and 7GW1029901.

In the volatile fraction, elevated detection limits were reported due to a twenty-fold dilution in sample 7GW419901.

In the semivolatile fraction, the surrogate %R was below the quality control limit for 2-fluorophenol in sample 08GW360001. No action was warranted since only one surrogate, within the acid fraction, was outside the quality control limit.

It should be noted in the semivolatile fraction, the laboratory failed to provide a Form I in sample PBSW1000001. The laboratory was notified and in return provided the Form I for the aforementioned sample.

It should be noted in the pesticide/PCB fraction, several sample results were inconsistent between the Form Is and the electronic data. The electronic data was amended to match the Form Is.

It should be noted in the pesticide/PCB fraction, the laboratory provided the incorrect surrogate %R quality control limits. The quality control limits were corrected on the Form II and qualified based upon the corrected quality control limits.

In the explosive fraction, the Matrix Spike/Matrix Spike Duplicate (MS/MSD) %R was below the quality control limit for nitrobenzene. No action is warranted since only nondetected results were reported and nitrobenzene was within the quality control limit in the associated LCS %R.

In the explosive fraction, elevated detection limits were reported due to a five-fold dilution in sample 7GW1030001.

In the explosive fraction, elevated detection limits were reported due to a three-fold dilution in sample 7GW1050001.

In the explosive fraction, elevated detection limits were reported due to a two-fold dilution in samples PBSW1010001, PBSW1010002, PBSW1020001, PBSW1030001, and PBSW1030002.

## EXECUTIVE SUMMARY

***Laboratory Performance:*** In the volatile fraction, the initial and continuing calibration RRFs were below the 0.05 quality control limit for 1,2-dibromo-3-chloropropane and acetone. The initial and continuing calibration %RSD and %D exceeded the quality control limit for chloroethane. In the volatile fraction, several compounds exceeded the linear calibration range of the instrument in sample 7GW410001

***Other Factors Affecting Data Quality:*** In the semivolatile fraction, the surrogate %R was below the quality control limits for 2-fluorophenol. In the pesticide/PCB fraction, the surrogate %Rs were below the quality control limit for tetrachloro-m-xylene on both columns. In the semivolatile and explosive fractions, the MS/MSD %R was below the quality control limit for 4-chloroaniline and nitrobenzene, respectively. Several samples reported elevated detection limits due to dilutions.

**MEMO TO: MR. R. KOTUN**
**DATE: MAY 14, 1999 – PAGE 4**

The data for these analyses were reviewed with reference to method specific quality control criteria, the "National Functional Guidelines for Organic Data Evaluation" (September 1994), and the NFESC Interim Guidance Document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (February 1996).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP).

Justin Orbich

Tetra Tech, NUS
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, NUS
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A Qualified Analytical Results
2. Appendix B Results as Reported by the Laboratory
3. Appendix C Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 14, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/EXP**
**CTO 180, NSWC WHITE OAK, MD**
**SDGs 95-03-191, 95-03-174**

**SAMPLES:** 13/Solid/

| | | |
|---|---|---|
| 04-SB13-0506 | 04-SB16-1012 | 04-SB17-1214 |
| 04-SB20-0607 | 04-SB20-0607-D | 08-SB01-1416 |
| 08-SB02-1618 | 08-SB04-1112 | 08-SB05-1618 |
| 08-SB06-1216 | 09-SB07-1012 | 09-SB08-1214 |
| 09-SB19-1012 | | |

5/Aqueous/

| | | |
|---|---|---|
| FB-032295-01 | RB-032395-01 | TB-032295-01 |
| TB-032395-01 | TB-032495-01 | |

OVERVIEW

The sample set for CTO 180, SDGs 95-03-191 and 95-03-174, NSWC White Oak, MD consists of thirteen (13) solid environmental samples and five (5) aqueous quality control samples analyzed for Target Compound List (TCL) volatile organic compounds. The solid environmental samples, rinsate blank (RB), and field blank (FB) were also analyzed for TCL semivolatile organic compounds and explosives. One field duplicate pair was included in the SDG: 04-SB20-0607 and 04-SB20-0607-D.

The samples were collected by Halliburton NUS on March 22-24$^{th}$, 1995 and were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None noted.

Minor Problems

- The following compounds were detected in the laboratory method blanks or field quality control blanks (*) at the following maximum concentrations:

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Methylene chloride* | 2 µg/L | 20 µg/Kg |
| Acetone* | 4 µg/L | 40 µg/Kg |
| Acetone | 14 µg/L | 140 µg/L |
| Di-n-butyl phthalate | 80 µg/Kg | 800 µg/Kg |

  Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for methylene chloride, acetone, and di-n-butyl phthalate below the blank action level were qualified as false positives, B.

- Internal standard recovery of phenanthrene-d10 fell below the lower quality control limit in sample 04-SB20-0607. Nondetected results were qualified as estimated, UJ. The direction of bias cannot be determined.

- Surrogate recovery of 4-nitroaniline exceeded the upper quality control limit in the following samples: 08-SB02-1618, 08-SB06-1216 MSD, NBLK518, 08-SB04-1112, 08-SB01-1416, 09-SB19-1012, 09-SB08-1214, 09-SB07-1012, 04-SB17-1214, 04-SB16-1012, 04-SB20-0607-D, and 04-SB13-0506. Nondetected results in the environmental samples were qualified as estimated, UJ. The direction of bias cannot be determined.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Initial calibration percent relative standard deviations (%RSDs) exceeded 30%, but were less than 50% for chloroethane, chloromethane, carbon disulfide, acetone, and 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration percent differences (%Ds) exceeded 25% but were less than 50% for acetone, 2-butanone, chloromethane, bromomethane, 4-methyl-2-pentanone, 2-hexanone,and chloroethane. Therefore, nondetected results were not qualified on this basis.

The volatile fraction of samples 04-SB20-0607 and 04-SB20-0607-D were analyzed and reported at a 5X dilution factor due to the presence of target compounds above the instrument's linear calibration range. The samples were re-analyzed as medium level soils due to the presence of trichloroethene above the instrument's linear calibration range. The result from the medium level analysis for this compound only was transposed over the original sample results and used for validation purposes.

The volatile fraction of sample 04-SB17-1214 was analyzed and reported at a 5X dilution factor due to the presence of target compounds above the instrument's linear calibration range. The sample was re-analyzed as medium level soil due to the presence of trichloroethene and 1,1,2,2-tetrachloroethane above the instrument's linear calibration range. The results from the medium level analysis for these compounds only were transposed over the original sample results and used for validation purposes.

Continuing calibration %Ds exceeded 25% but were less than 50% for hexachlorocylcopentadiene, 4-nitrophenol, 4-nitroaniline, pentachlorophenol, and 3,3'-dichlorobenzidine. Therefore, nondetected results were not qualified on this basis.

Unknown compounds and solvent artifacts tentatively identified in the laboratory method blanks should be considered as false positives where reported in the samples.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Surrogate recoveries were high in the explosive solid samples. Internal standard recovery was low in one semivolatile sample. Methylene chloride, acetone, and di-n-butyl phthalate were detected in the field quality control and laboratory method blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

PITT-03-9-16

**TO:** MR. R. KOTUN **DATE:** MAY 14, 1999

**FROM:** JUSTIN ORBICH **CC:** DV FILE

**SUBJECT:** ORGANIC DATA VALIDATION – VOA/SVOA/PEST/PCB/EXP
CTO 298, NSWC WHITE OAK
SDG WO003

**SAMPLES:** 16/Solid

| | |
|---|---|
| 4SS1070100 | 4SS1080100 |
| 4SS1090100 | 4SU1070200 |
| 4SU1080200 | 4SU1090200 |
| 7SS1010100 | 7SS1020100 |
| 7SS1020300 | 7SS1030100 |
| 7SS1050100 | 7SS1060100 |
| 7SU1010200 | 7SU1020200 |
| 7SU1030200 | 7SU1060200 |

**Overview**

The sample set for CTO 298, SDG WO003, Naval Surface Warfare Center (NSWC), White Oak, consists sixteen (16) solid environmental samples. The samples were analyzed for Target Compound List (TCL) volatile, semivolatile, pesticide/PCB, and explosive organic compounds. No field duplicates were included in this SDG.

The samples were collected by Tetra Tech, NUS on November 19th and 20th, 1998, and analyzed by Quanterra. The samples were all analyzed under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC), and according to U.S. EPA Contract Laboratory Program (CLP) OLM03.2 and SW 846 Method 8330 analytical and reporting protocols.

**Summary**

All compounds were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until extraction/analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, surrogate spike recoveries, Laboratory Control Sample (LCS) results, Matrix Spike/Matrix Spike Duplicate (MS/MSD) results, internal standard performance, compound identification and quantitation, detection limits, and Tentatively Identified Compound (TIC) evaluation.

Areas of concern with respect to data quality are listed below.

**Major Problems**

- In the pesticide fraction, the Matrix Spike/Matrix Spike Duplicate (MS/MSD) yielded a zero (0) Percent Recovery (%R) for 4,4'-DDT. The nondetected result was qualified as rejected (UR) in the MS/MSD sample 7SS102010.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Heptachlor, Aldrin, Endosulfan I, and Methoxychlor in sample 4SS1070100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Dieldrin, Endosulfan II, 4,4'-DDD, 4,4'-DDT, Endrin aldehyde, and gamma-Chlordane in sample 4SS1080100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endrin aldehyde in sample 4SU1070200. The positive result was qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Heptachlor, Aldrin, 4,4'-DDD, and 4,4'-DDT in sample 4SU1080200. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Aldrin in sample 4SU1090200. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Heptachlor, Heptachlor epoxide, Endosulfan I, Dieldrin, 4,4'-DDE, 4,4'-DDD, Methoxychlor, and Endrin aldehyde in sample 7SS1010100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Methoxychlor in sample 7SS1020300. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for 4,4'-DDD and Methoxychlor in sample 7SS1030100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endosulfan I and alpha-Chlordane in sample 7SS1050100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Heptachlor in sample 7SS1060100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Methoxychlor in sample 7SS102010. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Heptachlor, Heptachlor epoxide, Dieldrin, 4,4'-DDD, and Endrin aldehyde in sample 7SU1010200. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for alpha-BHC in sample 7SU1020200. The positive results were qualified as rejected (R), in the aforementioned sample.

**Minor Problems**

- In the volatile fraction, the continuing calibration Percent Difference (%D) exceeded the 25% quality control limit for acetone. The positive result was qualified as estimated (J) in sample 7SU1060200. The direction of bias is unknown.

- In the semivolatile fraction, the surrogate, phenol-d5 and 2-fluorophenol, %Rs were below the quality control limit in sample 7SS1010100. The positive and nondetected results were qualified as biased low, (L) and (UL), respectively, in the aforementioned sample.

- In the semivolatile fraction, the continuing calibration %D exceeded the 25% quality control limit for indeno(1,2,3-cd)pyrene. The positive results were qualified as estimated (UJ) in samples, 7SS1020100 and 7SS1020300. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limit for gamma-Chlordane in sample 4SS1070100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limit for Methoxychlor in sample 4SS1080100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limit for alpha-Chlordane in sample 4SS1090100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limits for Endrin ketone and AROCLOR-1260 in sample 4SU1070200. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limit for alpha-Chlordane in sample 7SS1010100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limit for Heptachlor epoxide, 4,4'-DDE, 4,4'-DDT, gamma-Chlordane, and AROCLOR-1260 in sample 7SS1030100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 25% quality control limit for Dieldrin in sample 7SS1060100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- Positive results reported at concentrations below the Contract Required Quantitation Limits (CRQL) were qualified as estimated (J). The direction of bias is unknown.

**Notes**

Several volatile and semivolatile continuing calibration %Ds exceeded the 25% quality control limits. No action was warranted since the %Ds did not exceed 50% and only nondetected results were reported.

The tentatively identified compound, cyclotetrasiloxane octamethyl-, was detected in the volatile method blank and should be considered a false positive in environmental samples.

It should be noted elevated detection limits were reported in the semivolatile sample 4SU1070200 due to a 20-fold dilution.

The tentatively identified compounds, unknown and aldol condensation products, were detected in the semivolatile method blank and should be considered false positives in environmental samples.

In the pesticide/PCB fraction, several surrogates yielded recoveries below the quality control limits. No action was warranted since the surrogates were diluted out.

In the pesticide/PCB fraction, the MS/MSD %R was below the quality control limit for gamma-Chlordane. No action was warranted since only nondetected results were reported and no action is taken on MS/MSD data alone.

It should be noted elevated detection limits were reported in the pesticide/PCB sample 4SU1070200 due to a 20-fold dilution.

It should be noted elevated detection limits were reported in the pesticide/PCB samples 7SS1020300 and 7SS1020100 due to a 10-fold dilution.

It should be noted elevated detection limits were reported in the pesticide/PCB sample 7SS1050100 due to a 5-fold dilution.

The following compound was detected in the laboratory method blank at the maximum concentrations indicated below:

| Compound | Concentration | Soil Action Level |
|---|---|---|
| 2-Amino-4,6-dinitrotoluene | 0.11µg/kg | 0.55µg/kg |

No action was warranted since only nondetected results were reported.

It should be noted in the explosive fraction, the units on the electronic data were converted to µg/kg.

**MEMO TO:** MR. R. KOTUN
**DATE:** MAY 14, 1999 – PAGE 5

## EXECUTIVE SUMMARY

***Laboratory Performance:*** In the volatile and semivolatile fraction, several continuing calibration %Ds exceeded the quality control limits. 2-Amino-4,6-dinitrotoluene was detected as blank contamination. Several pesticide/PCB samples yielded percent differences between columns exceeding the quality control limits

***Other Factors Affecting Data Quality:*** Several semivolatile and pesticide/PCB surrogate %Rs were below the quality control limits. In the pesticide/PCB fraction, several MS/MSD %R noncompliances were noted. Several semivolatile and pesticide/PCB samples were analyzed at a dilution. The units in the explosive fraction were converted to µg/kg.

The data for these analyses were reviewed with reference to method-specific quality control criteria, the "National Functional Guidelines for Organic Data Evaluation" (September, 1994), and the NFESC Interim Guidance Document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (February, 1996).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP).

Justin Orbich

Tetra Tech, NUS
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, NUS
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 17, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/EXP**
**CTO 180, NSWC WHITE OAK, MD**
**SDG 95-03-208**

**SAMPLES:** 8/Solid/

| | | |
|---|---|---|
| 04-SB08-0809 | 04-SB08-0809-D | 04-SB09-0809 |
| 04-SB10-0708 | 04-SB11-0809 | 04-SB12-1012 |
| 04-SB18-1012 | 04-SB19-1012 | |

2/Aqueous/

| | |
|---|---|
| RB-032795-01 | TB-032795-01 |

OVERVIEW

The sample set for CTO 180, SDG 95-03-208, NSWC White Oak, MD consists of eight (8) solid environmental samples and two (2) aqueous quality control samples analyzed for Target Compound List (TCL) volatile organic compounds. The solid environmental samples and rinsate blank (RB) were also analyzed for TCL semivolatile organic compounds and explosives. One field duplicate pair was included in the SDG: 04-SB08-0809 and 04-SB08-00809-D.

The samples were collected by Halliburton NUS on March 27th, 1995 and were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None noted.

Minor Problems

- Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit for hexachlorocyclopentadiene and di-n-octyl phthalate. Nondetected results were qualified as estimated, UJ, in sample RB-032795-01. The direction of bias cannot be determined.

- The following compounds were detected in the laboratory method blanks or field quality control blanks (*) at the following maximum concentrations:

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Methylene chloride | 13 µg/Kg | 130 µg/Kg |
| Acetone | 4 µg/L | 40 µg/L |

  Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for methylene chloride below the blank action level were qualified as false positives, B.

- Internal standard recovery of acenaphthene-d10 fell below the lower quality control limit in sample 04-SB12-1012. Nondetected results were qualified as estimated, UJ. The direction of bias cannot be determined.

- Internal standard recovery of acenaphthene-d10 and phenanthrene-d10 fell below the lower quality control limit in sample 04-SB11-0809. Samples 04-SB11-0809 MS and MSD also had similar noncompliances. Positive and nondetected results in the unspiked sample were qualified as estimated, J and UJ. The direction of bias cannot be determined.

- No quality control limits were provided for recovery of the surrogate 4-nitroaniline in the explosives fraction. The limits of 30-150% were used by the reviewer for validation purposes. Surrogate recovery of 4-nitroaniline fell below 30% in sample RB-032795-01. Nondetected results were qualified as biased low, UL.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Initial calibration percent relative standard deviations (%RSDs) exceeded 30%, but were less than 50% for chloromethane, carbon disulfide, acetone, and 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for acetone, 2-butanone, bromomethane, and 2-hexanone. Therefore, nondetected results were not qualified on this basis.

The volatile fraction of sample 04-SB11-0809 was analyzed and reported at a 5X dilution factor due to the presence of target compounds above the instrument's linear calibration range. This accounts for the elevated reporting limits for this sample.

Naphthalene was tentatively identified in the volatile fraction of sample 04-SB10-0708 at a concentration of 13 µg/Kg. Naphthalene was positively identified in the semivolatile fraction at a concentration of 40 µg/Kg.

Continuing calibration %Ds exceeded 25% but were less than 50% for hexachlorocylcopentadiene, butyl benzyl phthalate, bis(2-ethylhexyl)phthalate, di-n-octyl phthalate, indeno(1,2,3-c,d)pyrene, and benzo(gh,i)perylene. Nondetected results were not qualified on this basis.

Surrogate recovery of 2,4,6-tribromohenol exceeded the upper quality control limit in the aqueous laboratory method blank. No qualifiers were assigned on this basis as the noncompliance was limited to the method blank only.

Sample 04-SB11-0809 was analyzed at a 20X dilution factor due to the presence of 2-methylnaphthalene and phenanthrene above the instrument's linear calibration range. Results from the dilution for these two compounds only were transposed over the undiluted sample results and used for validation purposes.

Matrix spike and matrix spike duplicate recoveries exceeded the upper quality control limit for 4-nitrophenol. Matrix spike duplicate recoveries also exceeded the upper quality control limit for acenaphthene. These compounds were not detected in the unspiked sample; therefore, no validation action was required on this basis.

Unknown compounds and solvent artifacts tentatively identified in the laboratory method blanks should be considered as false positives where reported in the samples.

Surrogate recovery of 4-nitroaniline exceeded 150% in the solid laboratory method blank. No qualifiers were assigned on this basis as the noncompliance was limited to the method blank.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Several compounds failed to meet the continuing calibration quality control limit. Methylene chloride and acetone were detected in the field quality control and laboratory method blanks. Internal standard recoveries in the semivolatile fraction failed to meet the lower quality control limit. Surrogate recovery was low for one sample in the explosive fraction.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

For TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | MR. RON KOTUN | **DATE:** | **MAY 19, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/PEST/PCBEXPLOSIVES**
**CTO 298, NSWC WHITE OAK, MD**
**SDG WO011**

**SAMPLES:** 20/Sediment/

| | | |
|---|---|---|
| 11SD1020001 | 11SD1030001 | 2SD1000001 |
| 2SD1010001 | 2SD1020001 | 2SD1030001 |
| 2SD1040001 | 2SD1050001 | 2SD1060001 |
| 2SD1070001 | 2SD1080001 | 2SD1090001 |
| 2SD1100001 | 2SD1110001 | 2SD1120001 |
| 2SD1130001 | 9SD1060001 | 9SD1070001 |
| 9SD1080001 | | |

OVERVIEW

The sample set for CTO 298, SDG WO011, NSWC White Oak, MD consists of twenty (20) sediment environmental samples. All samples were analyzed for Target Compound List (TCL) volatile and semivolatile compounds, pesticide/PCBs, and explosives. One field duplicate pair was included in the SDG: 2SD1090001 and 2SD1090002.

The samples were collected by TetraTech NUS on January 18-19, 1999 and were analyzed by Quanterra Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP Statement of Work (SOW) OLMO3.2 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, GC/MS tuning and system performance, initial/continuing calibrations, laboratory method and field quality control blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, internal standard performance, tentatively identified compounds, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- Surrogate recovery of 2,4,6-tribromophenol fell below 10% in the semivolatile samples 2SD1130001 and 11SD1020001. Nondetected acid results were rejected, UR.

- The percent difference between columns exceeded the 100% quality control limit for the compounds in the following samples. Positive results for these compounds were rejected, R.

| Sample | Compound | %D |
|---|---|---|
| 11SD1020001 | Heptachlor | 999.9% |
| | Endosulfan I | 669.2% |
| | Endosulfan sulfate | 999.9% |
| | g-Chlordane | 377.3% |
| 11SD1030001 | a-BHC | 533.3% |
| | 4,4'-DDE | 135.3% |
| | Endrin | 155.0% |
| | Endosulfan sulfate | 999.9% |
| | Methoxychlor | 400.0% |
| | Endrin aldehyde | 288.0% |
| | g-Chlordane | 502.7% |
| 2SD1000001 | Heptachlor | 150% |
| | Heptachlor epoxide | 342.6% |
| | 4,4'-DDT | 239% |
| | Endrin ketone | 999.9% |
| | g-Chlordane | 290% |
| 2SD1010001 | Heptachlor | 999.9% |
| | 4,4'-DDT | 232.1% |
| | g-Chlordane | 603.1% |
| 2SD1020001 | Endosulfan sulfate | 999.9% |
| | Endrin aldehyde | 241.5% |
| | g-Chlordane | 504.6% |
| 2SD1030001 | Heptachlor | 999.9% |
| | Dieldrin | 127.8% |
| | Endrin | 999.9% |
| | Endosulfan sulfate | 999.9% |
| | Endrin aldehyde | 400% |
| | a-Chlordane | 222.7% |
| | g-Chlordane | 475.0% |
| 2SD1040001 | 4,4'-DDE | 204.2% |
| | Endosulfan sulfate | 999.9% |
| | Endrin aldehyde | 328.6% |
| | g-Chlordane | 517.6% |
| 2SD1050001 | 4,4'-DDE | 206.7% |
| | Endosuflan sulfate | 999.9% |
| | Endrin ketone | 999.9% |
| | Endrin aldehyde | 490.9% |
| | g-Chlordane | 566.7% |

| | | |
|---|---|---|
| 2SD1060001 | Dieldrin | 143.9% |
| | Endrin ketone | 999.9% |
| | g-Chlordane | 237.8% |
| 2SD1070001 | Endrin | 999.9% |
| | Endosulfan sulfate | 999.9% |
| | Endrin aldehyde | 473.3% |
| 2SD1080001 | Endosulfan sulfate | 999.9% |
| | g-Chlordane | 300% |
| 2SD1090001 | g-BHC | 254.5% |
| | 4,4'-DDE | 118.2% |
| | Endrin | 287.1% |
| | Endosulfan sulfate | 999.9% |
| | Endrin aldehyde | 296.6% |
| | g-Chlordane | 566.7% |
| 2SD1090002 | Endosulfan II | 999.9% |
| | 4,4'-DDE | 111.1% |
| | Endrin | 190% |
| | Endosulfan sulfate | 999.9% |
| | Methoxychlor | 999.9% |
| | Endrin aldehyde | 280% |
| | g-Chlordane | 445.4% |
| 2SD1100001 | 4,4'-DDE | 121% |
| | Endrin | 250% |
| | Endosulfan sulfate | 999.9% |
| | g-Chlordane | 441.7% |
| 2SD1110001 | d-BHC | 327.3% |
| | Heptachlor | 999.9% |
| | Endrin | 240.7% |
| | Endosulfan sulfate | 999.9% |
| | g-Chlordane | 429.4% |
| 2SD1120001 | g-Chlordane | 378.3% |
| 2SD1130001 | Heptachlor | 999.9% |
| | Endosulfan sulfate | 999.9% |
| | 4,4'-DDT | 999.9% |
| | Endrin aldehyde | 400% |
| | g-Chlordane | 372.2% |
| 9SD1060001 | a-BHC | 156.2% |
| | Heptachlor | 999.9% |
| | 4,4'-DDE | 106.2% |
| | 4,4'-DDT | 999.9% |
| | g-Chlordane | 284.6% |

| | | |
|---|---|---|
| 9SD1070001 | Heptachlor | 999.9% |
| | Heptachlor epoxide | 999.9% |
| | g-Chlordane | 200% |
| 9SD1080001 | Heptachlor | 999.9% |
| | 4,4'-DDT | 900% |
| | g-Chlordane | 300% |

Minor Problems

- All semivolatile samples were extracted eight to nine days after sample collection. Nondetected and positive results were qualified as estimated, UJ and J.

- All pesticide samples were extracted eight to nine days after sample collection. Nondetected and positive results were qualified as estimated, UJ and J.

- The majority of explosive samples were extracted eight days after sample collection. Nondetected results were qualified as estimated, UJ.

- The following table summarizes the maximum concentration of compounds detected in the laboratory method and/or field quality control blanks (*) analyzed in this SDG.

| Compound | Maximum Concentration | Action Level |
|---|---|---|
| Bromomethane | 2 µg/Kg | 10 µg/Kg |
| a-BHC | 0.01 µg/Kg | 0.05 µg/Kg |
| b-BHC | 0.035 µg/Kg | 0.175 µg/Kg |
| d-BHC | 0.017 µg/Kg | 0.085 µg/Kg |
| Aldrin | 0.066 µg/Kg | 0.33 µg/Kg |
| 4,4'-DDE | 0.067 µg/Kg | 0.335 µg/Kg |
| 4,4'-DDD | 0.070 µg/Kg | 0.35 µg/Kg |
| PCB 1232 | 6.9 µg/Kg | 34.5 µg/Kg |
| PCB 1242 | 11 µg/Kg | 55 µg/Kg |

  Dilution factors, percent solids, and sample aliquot used for analysis were taken into consideration during the application of all action levels. Positive results reported as false positives as a result of blank contamination for bromomethane, a-BHC, d-BHC, Aldrin, and 4,4'-DDE were qualified as B.

- The percent difference between columns exceeded the 25% quality control limit for the compounds in the following samples. Positive results for these compounds were qualified as estimated, J. The direction of bias cannot be determined.

| Sample | Compound | %D |
|---|---|---|
| 11SD1020001 | Dieldrin | 57.3% |
| | Endrin | 33.3% |
| 11SD1030001 | d-BHC | 82.4% |
| | Dieldrin | 80.0% |
| 2SD1000001 | PCB 1260 | 50% |

| | | |
|---|---|---|
| 2SD1010001 | a-Chlordane | 60.6% |
| | PCB 1260 | 45.8% |
| 2SD1020001 | Dieldrin | 83.3% |
| 2SD1030001 | 4,4'-DDE | 68.8% |
| 2SD1040001 | Dieldrin | 60% |
| 2SD1050001 | Endrin | 66.7% |
| 2SD1060001 | PCB 1260 | 38.1% |
| 2SD1070001 | Dieldrin | 41.7% |
| | 4,4'-DDE | 83.3% |
| 2SD1080001 | Dieldrin | 46.7% |
| | a-Chlordane | 36.7% |
| 2SD1090001 | Dieldrin | 78.9% |
| 2SD1090002 | Dieldrin | 65.4% |
| 2SD1100001 | Dieldrin | 66.7% |
| | a-Chlordane | 44.8% |
| 2SD1110001 | a-BHC | 88.2% |
| | Dieldrin | 52.4% |
| | 4,4'-DDE | 79.1% |
| | 4,4'-DDT | 77.8% |
| | a-Chlordane | 28.6% |
| 2SD1120001 | PCB 1260 | 38.1% |
| 2SD1130001 | Endrin | 31.9% |
| 9SD1070001 | 4,4'-DDE | 69% |
| 9SD1080001 | 4,4'-DDE | 95.2% |
| | Endosulfan sulfate | 70.0% |
| | PCB 1254 | 35.3% |

- Positive results reported below the Contract Required Quantitation Limit (CRQL) were qualified as estimated, (J). The direction of bias cannot be determined.

Notes

Continuing calibration %Ds exceeded 25% but were less than 50% for acetone, carbon disulfide, 1,1-dichloroethene, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone. Since the compounds were not detected in the samples, no qualifiers were assigned on this basis.

Semivolatile samples 11SD1020001 and 2SD1130001 were re-extracted due to poor surrogate recovery. The re-extraction occurred 43-44 days after sample collection. Therefore, only the original sample results were used for validation purposes.

Unknown compounds and aldol condensation products were tentatively identified in the semivolatile laboratory method blank. Positive results for these compounds in the samples should be considered as false positives.

A continuing calibration %D exceeded the 25% quality control limit but was less than 50% for N-nitroso-di-n-propylamine. The compound was not detected in the samples; therefore, no validation action was required on this basis.

PCBs were tentatively identified in the semivolatile fractions of samples 2SD1020001, 2SD1030001, and 2SD1050001. PCB 1260 was detected in the pesticide analysis of these samples.

Surrogate recovery of decachlorobiphenyl was outside the 60-150% quality control limits in several pesticide samples. However, as the samples had been diluted, no validation action was taken on this basis.

Matrix spike and matrix spike duplicate recovery of 4,4'-DDT exceeded the upper quality control limit. However, the compound was not detected in the unspiked sample 2SD1090001; therefore, no validation action was required on this basis.

Several pesticide samples were analyzed at dilutions ranging from 2X to 20X due to the presence of target compounds. This accounts for the elevated reporting limits in these samples.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Bromomethane and several pesticides were detected in the laboratory method blanks. Surrogate recoveries in the semivolatile failed to meet quality control limits. Several compounds failed to meet the percent difference between columns criteria in the pesticide fraction. Semivolatile, pesticide, and explosive samples were extracted beyond holding time.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

PITT-03-9-052

**TO:** MR. R. KOTUN **DATE:** MAY 19, 1999

**FROM:** JUSTIN ORBICH **CC:** DV FILE

**SUBJECT:** ORGANIC DATA VALIDATION – VOA/SVOA/PEST/PCB/EXP
CTO 298, NSWC WHITE OAK
SDG WO006

**SAMPLES:** 2/Aqueous

TB121498 TB121898

21/Solid

| | |
|---|---|
| 2SU1050400 | 2SU1070400 |
| 3SS1020100 | 3SS1040100 |
| 3SS1050100 | 3SS1060100 |
| 3SS1070100 | 3SS1080100 |
| 3SS1090100 | 3SS1100100 |
| 3SS1110100 | 3SS1120100 |
| 3SS1130100 | 3SS1140100 |
| 3SS1150100 | 3SU1020200 |
| 3SU1040300 | 3SU1050300 |
| 3SU1060300 | 3SU1070300 |
| 3SS1120300 | |

## Overview

The sample set for CTO 298, SDG WO006, Naval Surface Warfare Center (NSWC), White Oak, consists of twenty-one (21) solid environmental samples and two (2) trip blanks (designated TB). The samples were analyzed for Target Compound List (TCL) volatile, semivolatile, pesticide/PCB, and explosive organic compounds. The trip blanks were analyzed for TCL volatile organic compounds only. No field duplicates were included in this SDG.

The samples were collected by Tetra Tech, NUS on December 14th and 18th, 1998, and analyzed by Quanterra Environmental Services. The samples were all analyzed under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC), and according to U.S. EPA Contract Laboratory Program (CLP) OLM03.2 and SW 846 Method 8330 analytical and reporting protocols.

## Summary

All compounds were successfully analyzed with the exception of those compounds qualified as rejected. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until extraction/analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, surrogate spike recoveries, Laboratory Control Sample (LCS) results, Matrix Spike/Matrix Spike Duplicate (MS/MSD) results, internal

standard performance, compound identification and quantitation, detection limits, and Tentatively Identified Compound (TIC) evaluation.

Areas of concern with respect to data quality are listed below.

**Major Problems**

- In the semivolatile fraction, the surrogate Percent Recoveries (%Rs) were less than ten percent (10%) for nitrobenzene-d5, phenol-d5, and 2-fluorophenol in sample 3SS1100100. The sample was re-extracted twenty-five (25) days after the sample collection date. The original analysis was used for validation purposes since the reanalysis had a holding time noncompliance. The nondetected results were qualified as rejected (UR) in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endosulfan II and Endrin in sample 3SS1080100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endosulfan II and Dieldrin in sample 3SS1090100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endosulfan II in sample 3SS1100100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endosulfan II and 4,4'-DDT in sample 3SS1110100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endosulfan II in sample 3SS1120100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for alpha-BHC and Endosulfan II in sample 3SS1120300. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for Endrin, Methoxychlor, 4,4'-DDD, Endosulfan II, and Endrin aldehyde in sample 3SS1150100. The positive results were qualified as rejected (R), in the aforementioned sample.

- In the pesticide/PCB fraction, the percent difference between columns exceeded 100% for delta-BHC in sample 3SU1050300. The positive results were qualified as rejected (R), in the aforementioned sample.

**Minor Problems**

- The following compounds were detected in the laboratory method and/or field quality control blanks at the maximum concentrations indicated below:

| Compound | Concentration | Aqueous Action Level | Soil Action Level |
|---|---|---|---|
| Methylene Chloride* | 6.0µg/L | 60.0µg/L | 60.0µg/kg |
| Styrene* | 0.4µg/L | 2.0µg/L | 2.0µg/kg |
| Bromomethane | 2.0µg/kg | NA | 10.0µg/kg |

*Maximum detection found in field quality control blank.

Sample aliquots, percent moisture, and dilution factors were taken into consideration during the application of the action level. Positive results for methylene chloride reported at concentrations below the action level were qualified (B) as a result of blank contamination. It should be noted that field quality control blanks are not qualified based on field quality control blank contamination.

- In the volatile fraction, the continuing calibration Percent Difference (%D) exceeded the 25% quality control limit for acetone and 2-butanone. The positive result was qualified as estimated (J) in sample 3SU1050300. The direction of bias is unknown.

- In the pesticide samples 3SS1020100 and 3SS1070100, the surrogate Percent Recoveries (%Rs) were below the quality control limit for tetrachloro-m-xylene and decachlorobiphenyl. The positive and nondetected results were qualified as estimated, (J) and (UJ), respectively, in the aforementioned samples. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane, gamma-Chlordane, AROCLOR-1254, and AROCLOR-1260 in sample 3SS1020100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for AROCLOR-1254 in sample 3SS1050100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane in sample 3SS1080100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane in sample 3SS1090100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane and Endrin aldehyde in sample 3SS1100100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane and gamma-Chlordane in sample 3SS1110100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane in sample 3SS1120100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for gamma-Chlordane in sample 3SS1120300. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane in sample 3SS1140100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for 4,4'-DDE, 4,4'-DDT, and AROCLOR-1260 in sample 3SS1150100. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- In the pesticide/PCB fraction, the percent difference between columns exceeded the 25% quality control limit for alpha-Chlordane and 4,4'-DDE in sample 3SU1050300. The positive results were qualified as estimated (J), in the aforementioned sample. The direction of bias is unknown.

- Positive results reported at concentrations below the Contract Required Quantitation Limits (CRQL) were qualified as estimated (J).

**Notes**

Several volatile and semivolatile continuing calibration %Ds exceeded the 25% quality control limits. No action was warranted since the %Ds did not exceed 50% and only nondetected results were reported.

The tentatively identified compound, cyclotetrasiloxane, octamethyl-, was detected in the volatile method blank and should be considered a false positive.

In the semivolatile fraction, the initial calibration Percent Relative Standard Deviation (%RSD) exceeded the 30% quality control limit for di-n-octylphthalate. No action was warranted since the %RSD did not exceed 50% and only nondetected results were reported.

The tentatively identified compounds, unknown, aldol condensation products, and acetophenone, were detected in the semivolatile method blank and should be considered a false positive.

In the semivolatile fraction, several Matrix Spike (MS) compounds were below the quality control limits. No action was warranted since the compounds were within the quality control limits in the Matrix Spike Duplicate (MSD).

In the pesticide/PCB fraction, the surrogate decachlorobiphenyl was below the quality control limits on one column. No action was warranted since only one surrogate was outside the quality control limits.

It should be noted several pesticide/PCB samples contained results reported as nondetects. However, they were below the Contract Required Quantitation Limit (CRQL). The laboratory was notified and the associated Form Is and Form Xs were amended in the following samples:

| | |
|---|---|
| 3SS1080100 | 3SS1090100 |
| 3SS1110100 | 3SS1120300 |
| 3SS1150100 | 3SS1150300 |

It should be noted there was a discrepancy between the reporting limits of the laboratory specifications and the electronic data. The laboratory submitted on the bidding contract the discrepancy between the reporting limits. The Project Manager (PM) was notified of the discrepancy and has approved the deviation of the reporting limits by the laboratory.

## EXECUTIVE SUMMARY

***Laboratory Performance:*** In the volatile and semivolatile fraction, several initial and continuing calibration %RSDs and %Ds exceeded the quality control limits. Methylene chloride, bromomethane, and styrene were detected as blank contamination. Several pesticide/PCB samples yielded percent differences between columns exceeding the quality control limits.

***Other Factors Affecting Data Quality:*** Several semivolatile and pesticide/PCB surrogate %Rs were below the quality control limits. In the semivolatile fraction, several MS %R noncompliances were noted. The units in the explosive fraction were converted to µg/kg.

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The data for these analyses were reviewed with reference to method-specific quality control criteria, the "National Functional Guidelines for Organic Data Evaluation" (September, 1994), and the NFESC Interim Guidance Document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide" (February, 1996).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP).

Justin Orbich

Tetra Tech, NUS
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, NUS
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-05-9-043**

**TO:** **R. KOTUN** **DATE:** **MAY 20, 1999**

**FROM:** **TERRI L. SOLOMON** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION - TAL METALS AND CYANIDE**
**CTO 180-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – METALS1**

**SAMPLES:** 18/Soils/

| | | | |
|---|---|---|---|
| 11-LW-03 | 09-SB16-1012 | 09-SB17-1416 | 09-SB20-1416 |
| 09-SB18-1012 | 09-SB10-1214 | 09-SB11-1012 | 11-SB05-1416 |
| 11-SB11-1214 | 11-SB01-1416 | 11-LW-06 | 11-SB09-1416 |
| 11-SB10-1012 | 11-SB08-1416 | 04-SB01-1216 | 04-SB02-1216 |
| 04-SB03-1214 | 11-SB07-0607 | | |

3/Aqueous/

| | | |
|---|---|---|
| RB-031795-01 | RB-030895-1 | RB-032995-01 |

Overview

The sample set for CTO 180, NSWC White Oak, SDG METALS1, consists of eighteen (18) soil environmental samples and three (3) rinsate blanks. No field duplicate pairs were included within this SDG.

The soil samples, with the exception of 11-LW-06, and sample RB-032995-01 were analyzed for Target Analyte List (TAL) metals and cyanide. Samples 11-LW-06, RB-031795-01 and RB-030895-1 were analyzed for TAL metals only. The samples were collected by Tetra Tech NUS on March 8, 14, 15, 16, 17 and 29, 1995 and analyzed by GP Environmental under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. All analyses were conducted using Contract Laboratory (CLP) Statement of Work (SOW) ILMO3.0 analytical and reporting protocols.

Summary

All analytes were successfully analyzed with the exception of those designated, "UR". The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation/ rinsate blanks, interference check samples (ICS), laboratory duplicate results, matrix spike recoveries, post digestion spike recoveries, laboratory control sample (LCS) results, ICP serial dilution results, graphite furnace post digestion spike recoveries, method of standard addition results, detection limits and analyte quantitation.

All analyses, with the exception of cyanide, mercury, antimony, arsenic, lead, selenium, silver and thallium we conducted using Inductively Coupled Plasma (ICP) methodologies. Antimony, arsenic, lead, selenium, silver and thallium analyses were conducted using Graphite Furnace Atomic Absorption (GFAA) methodologies. Mercury analyses were conducted using cold vapor AA. Cyanide analyses were conducted using wet chemistry methods.

Areas of concern with respect to data quality are listed below.

Major Problems

- The Contract Required Detection Limit (CRDL) Percent Recoveries (%Rs) for calcium affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214, 11-SB07-0607 and RB-032995-01 were < 50% quality control limit. Nondetected results reported for the aforementioned analytes were qualified as rejected, "UR". The positive results < 2X CRDL reported for the aforementioned analyte were qualified as biased low, "L".

- The matrix spike (MS) percent recovery (%R) for antimony affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214 and 09-SB11-1012 was < 30% quality control limit. The positive results < 2X CRDL reported for the aforementioned analyte were qualified as biased low, "L". The nondetected results reported for the aforementioned analyte were qualified as rejected, "UR".

- The MS %R for mercury affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214 and 09-SB11-1012 was < 30% quality control limit. The positive results < 2X CRDL reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances. The nondetected results reported for the aforementioned analyte were qualified as rejected, "UR".

- The MS %R for selenium affecting samples 11-SB05-1416, 11-SB11-1214 and 11-SB01-1416 was < 30% quality control limit. The nondetected results reported for the aforementioned analyte were qualified as rejected, "UR".

Minor Problems

- The CRDL %Rs for cadmium, nickel and selenium affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214, 09-SB11-1012 and RB-031795-01 were > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analytes were qualified as biased high, "K".

- The CRDL %R for lead affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214, 09-SB11-1012 and RB-031795-01 was < 90% quality control limit. Nondetected results reported for the aforementioned analyte were qualified as biased low, "UL".

- The CRDL %Rs for manganese and mercury affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214, 09-SB11-1012 and RB-031795-01 were > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances.

- The CRDL %R for mercury affecting samples 11-SB05-1416, 11-SB11-1214 and 11-SB01-1416 was > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analyte were qualified as biased high, "K".

- The CRDL %R for zinc affecting samples 11-LW-06 and RB-030895-1 was > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analyte were qualified as biased high, "K".

- The CRDL %Rs for barium and chromium affecting samples 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416 were < 90% quality control limit. Positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The CRDL %R for mercury affecting samples 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416 was > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analyte were qualified as biased high, "K".

- The CRDL %R for cadmium affecting samples 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416 was < 90% quality control limit. Nondetected results reported for the aforementioned analyte were qualified as biased low, "UL".

- The CRDL %Rs for chromium affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214, 11-SB07-0607 and RB-032995-01 exhibited recoveries both above and below the 90-110% quality control limits. Nondetected results reported for the aforementioned analyte were qualified as estimated, "UJ", as a result of conflicting noncompliances.

- The CRDL %Rs for cobalt and magnesium affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214, 11-SB07-0607 and RB-032995-01 were < 90% quality control limit. Positive results < 2X CRDL and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The CRDL %Rs for mercury and zinc affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214, 11-SB07-0607 and RB-032995-01 were > 110% quality control limit. Positive results < 2X CRDL reported for the aforementioned analytes were qualified as biased high, "K".

- The following contaminants were detected in the laboratory method/ preparation/ rinsate blanks at the following maximum concentrations:

Samples Affected: 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214, 09-SB11-1012 and RB-031795-01

| Analyte | Maximum Concentration | Action Level (aqueous) | Action Level (soil) |
|---|---|---|---|
| cadmium(1) | 5.3 ug/L | NA | 2.65 mg/kg |
| cobalt | 20.2 ug/L | 101 ug/L | 10.1 mg/kg |
| copper | 14.1 ug/L | 70.5 ug/L | 7.05 mg/kg |
| manganese(2) | 11.8 ug/L | 59.0 ug/L | NA |
| nickel(1) | 25.5 ug/L | NA | 12.75 mg/kg |
| sodium(1) | 315 ug/L | NA | 157.5 mg/kg |
| zinc(2) | 16.9 ug/L | 84.5 ug/L | NA |
| zinc(3) | 1.427 mg/kg | NA | 7.135 mg/kg |

Samples Affected: 11-SB05-1416, 11-SB11-1214 and 11-SB01-1416

| Analyte | Maximum Concentration | Action Level (aqueous) | Action Level (soil) |
|---|---|---|---|
| aluminum(3) | 8.482 mg/kg | NA | 42.41 mg/kg |
| calcium(3) | 12.525 mg/kg | NA | 62.625 mg/kg |
| copper(1) | 9.3 ug/L | NA | 4.65 mg/kg |
| sodium(1) | 615 ug/L | NA | 307.5 mg/kg |
| zinc(3) | 1.295 mg/kg | NA | 6.475 mg/kg |

Samples Affected: 11-LW-06 and RB-030895-1

| Analyte | Maximum Concentration | Action Level (aqueous) | Action Level (soil) |
|---|---|---|---|
| beryllium | 1.1 ug/L | 5.5 ug/L | 0.55 mg/kg |
| copper | 11.8 ug/L | 59.0 ug/L | NA |
| copper(3) | 1.189 mg/kg | NA | 5.945 mg/kg |
| manganese | 13.5 ug/L | 67.5 ug/L | 6.75 mg/kg |
| sodium(1) | 177 ug/L | NA | 88.5 mg/kg |
| zinc(1) | 28.6 ug/L | NA | 14.3 mg/kg |

Samples Affected: 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416

| Analyte | Maximum Concentration | Action Level (aqueous) | Action Level (soil) |
|---|---|---|---|
| beryllium(3) | 0.184 mg/kg | NA | 0.92 mg/kg |
| calcium(3) | 11.0 mg/kg | NA | 55.0 mg/kg |
| iron(3) | 7.70 mg/kg | NA | 38.5 mg/kg |
| manganese | 9.3 ug/L | NA | 4.65 mg/kg |
| potassium(3) | 42.700 mg/kg | NA | 213.5 mg/kg |
| silver(3) | 0.110 mg/kg | NA | 0.550 mg/kg |
| sodium(3) | 20.600 mg/kg | NA | 103 mg/kg |
| zinc(3) | 0.870 mg/kg | NA | 4.35 mg/kg |

Samples Affected: 04-SB01-1216, 04-SB02-1216, 04-SB03-1214, 11-SB07-0607 and RB-032995-01

| Analyte | Maximum Concentration | Action Level (aqueous) | Action Level (soil) |
|---|---|---|---|
| antimony(3) | 0.326 mg/kg | NA | 1.63 mg/kg |
| beryllium | 2.1 ug/L | 10.5 ug/L | NA |
| beryllium(3) | 0.224 mg/kg | NA | 1.12 mg/kg |
| cobalt | 18.2 ug/L | NA | 9.1 mg/kg |
| manganese | 4.3 ug/L | NA | 2.15 mg/kg |
| sodium(1) | 607 ug/L | NA | 303.5 mg/kg |
| vanadium | 15.7 ug/L | NA | 7.85 mg/kg |
| zinc(1) | 37.8 ug/L | NA | 18.9 mg/kg |

(1) Maximum concentration found in a rinsate blank.
(2) Maximum concentration found in an aqueous preparation blank.
(3) Maximum concentration found in a soil preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample percent solids, aliquot size and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level for antimony, beryllium, cadmium, calcium, cobalt, copper, manganese, nickel, potassium, sodium, vanadium and zinc have been qualified, "B", as a result of blank contamination. No validation action was taken for the remaining analytes since the results were either greater than the action level or were nondetects. It should be noted that field quality control blanks are not qualified for field blank contamination.

- The MS %Rs for chromium, copper and silver affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214 and 09-SB11-1012 were > 125% quality control limit. The positive results reported for the aforementioned analytes were qualified as biased high, "K".

- The MS %R for zinc affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214 and 09-SB11-1012 was > 125% quality control limit. The positive results reported for the aforementioned analyte were qualified as estimated, "J", as a result of conflicting noncompliances.

- The MS %Rs for antimony and arsenic affecting samples 11-SB05-1416, 11-SB11-1214 and 11-SB01-1416 were < 75% quality control limit. The positive results and nondetects reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The MS %Rs for antimony, arsenic and copper affecting sample 11-LW-06 were < 75% quality control limit. The positive results and nondetects reported for the aforementioned analyte were qualified as biased low, "L" and "UL", respectively.

- The MS %R for manganese affecting sample 11-LW-06 was < 75% quality control limit. The positive result reported for the aforementioned analyte was qualified as estimated, "J", as a result of conflicting noncompliances.

- The MS %Rs for antimony, arsenic, cadmium and zinc affecting samples 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416 were < 75% quality control limit. The positive and nondetected results reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- The MS %Rs for lead, manganese and mercury affecting samples 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416 were > 125% quality control limit. The positive results reported for the aforementioned analytes were qualified as biased high, "K".

- The MS %Rs for arsenic, lead and selenium affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214 and 11-SB07-0607 were < 75% quality control limit. The positive and nondetected results reported for the aforementioned analytes were qualified as biased low, "L" and "UL", respectively.

- Laboratory duplicate imprecision (> 35%) was noted for mercury affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214 and 09-SB11-1012. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- Laboratory duplicate imprecision (> 35%) was noted for chromium affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214 and 11-SB07-0607. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP serial dilution percent difference (%D) for manganese and zinc affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214 and 09-SB11-1012 were > 10% quality control limit. The positive results reported for the aforementioned analytes were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP serial dilution %D for zinc affecting samples 11-SB05-1416, 11-SB11-1214 and 11-SB01-1416 was > 10% quality control limit. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP serial dilution %Ds for calcium, manganese and zinc affecting sample 11-LW-06 were > 10% quality control limit. The positive results reported for the aforementioned analytes were qualified as estimated, "J". The direction of bias could not be determined.

- The ICP serial dilution %D for iron affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214 and 11-SB07-0607 was > 10% quality control limit. The positive results reported for the aforementioned analyte were qualified as estimated, "J". The direction of bias could not be determined.

- The GFAA post digestion spike recovery for antimony was < 85% quality control limit and the sample absorbance was < 50% of the spike absorbance for sample RB-030895-1. The nondetected result reported for antimony in the affected sample was qualified as biased low, "UL".

Notes

The sample IDs on the Form Is were incomplete. The Form Is were amended.

The CRDL %Rs for chromium, cobalt, copper and zinc affecting samples 11-LW-03, 09-SB16-1012, 09-SB17-1416, 09-SB20-1416, 09-SB18-1012, 09-SB10-1214, 09-SB11-1012 and RB-031795-01 were > 110% quality control limits. However, no validation actions were warranted as all results were either qualified for blank contamination or were > 2X CRDL.

The CRDL %Rs for aluminum, iron, lead, manganese, selenium and zinc affecting samples 11-SB05-1416, 11-SB11-1214 and 11-SB01-1416 were outside the 90-110% quality control limits. However, no validation actions were warranted as all results were either > 2X CRDL or were rejected for a more sever noncompliance.

The CRDL %Rs for chromium, copper, iron and manganese affecting samples 11-LW-06 and RB-030895-1 were > 110% quality control limit. However, no validation actions were warranted as all results were either > 2X CRDL, were nondetects or were qualified for blank contamination.

The CRDL %Rs for aluminum, beryllium, iron, lead, manganese, selenium and zinc affecting samples 11-SB09-1416, 11-SB10-1012 and 11-SB08-1416 were outside the 90-110% quality control limits. However, no validation actions were warranted as all results were either > 2X CRDL, were nondetects, or were qualified for blank contamination.

The CRDL %Rs for aluminum, beryllium, iron and silver affecting samples 04-SB01-1216, 04-SB02-1216, 04-SB03-1214, 04-SB07-0607 and RB-032995-01 were > 110% quality control limit. However, no validation actions were warranted as all results were either > 2X CRDL, were nondetects, or were qualified for blank contamination.

Samples 11-LW-03, 11-SB07-0607 and 11-SB09-1416 were analyzed at a 5X dilution for iron.

Sample 11-SB01-1416 was analyzed at a 10X dilution for iron.

Executive Summary

**Laboratory Performance:** The CRDL %Rs for several analytes were outside the 90-110% quality control limits. Several analytes were present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** The MS %Rs antimony, arsenic, cadmium, chromium, copper, lead, manganese, mercury, selenium, silver and zinc were outside the 75-125% quality control limits. Laboratory duplicate imprecision was noted for chromium and mercury. The ICP serial dilution percent differences for calcium, iron, manganese and zinc were > 10% quality control limit. The GFAA post digestion spike recovery for antimonym was < 85% quality control limit and the sample absorbance was < 50% of the spike absorbance for sample RB-030895-1.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**PITT-05-9-045**

**TO:** **R. KOTUN** **DATE:** **MAY 20, 1999**

**FROM:** **TERRI L. SOLOMON** **COPIES:** **DV FILE**

**SUBJECT:** **INORGANIC DATA VALIDATION – TOTAL KJELDAHL NITROGEN, pH**
**CTO 180-NSWC WHITEOAK, WHITEOAK, MARYLAND**
**SDG – MISC1**

**SAMPLES:** 18/Soils/

| | | | |
|---|---|---|---|
| 11-LW-03 | 09-SB16-1012 | 09-SB17-1416 | 09-SB20-1416 |
| 09-SB18-1012 | 09-SB10-1214 | 09-SB11-1012 | 11-SB05-1416 |
| 11-SB11-1214 | 11-SB01-1416 | 11-LW-06 | 11-SB09-1416 |
| 11-SB10-1012 | 11-SB08-1416 | 04-SB01-1216 | 04-SB02-1216 |
| 04-SB03-1214 | 11-SB07-0607 | | |

Overview

The sample set for CTO 180, NSWC White Oak, SDG MISC1, consists of eighteen (18) soil environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for total kjeldahl nitrogen and pH. The samples were collected by Tetra Tech NUS on March 8, 9, 14, 15, 16, 17 and 20, 1995 and analyzed by GP Environmental under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Total kjeldahl analyses were conducted using MCAWW method 351.3. pH analyses were conducted using SW-846 method 9045.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data including data completeness, holding times, calibration data, laboratory method/ preparation blanks, laboratory duplicate results, matrix spike recoveries, laboratory control sample (LCS) results, detection limits and analyte quantitation.

Areas of concern with respect to data quality are listed below.

Major Problems - None.

Minor Problems - None.

Notes - None.

Executive Summary

**Laboratory Performance:** None.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", April 1993 Revision as amended for use within USEPA Region III, and the NFESC document entitled "Navy Installation Restoration Laboratory Quality Assurance Guide " (NFESC 2/96).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Terri L. Solomon
Chemist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

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2. Appendix B - Results as reported by the Laboratory
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**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 20, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |
| **SUBJECT:** | **ORGANIC DATA VALIDATION- VOA/EXP<br>CTO 180, NSWC WHITE OAK, MD<br>SDG 11LW03** | | |

**SAMPLES:** 7/Solid/

| | | |
|---|---|---|
| 11-LW-03 | 09-SB10-1214 | 09-SB11-1012 |
| 09-SB16-1012 | 09-SB17-1416 | 09-SB18-1012 |
| 09-SB20-1416 | | |

3/Aqueous/

| | | |
|---|---|---|
| RB-031795-01 | TB-031695-01 | TB-031795-01 |

OVERVIEW

The sample set for CTO 180, SDG 11LW03, NSWC White Oak, MD consists of seven (7) solid environmental samples and three (3) aqueous quality control samples analyzed for Target Compound List (TCL) volatile organic compounds. The solid environmental samples and rinsate blank (RB) were further analyzed for explosives. The solid environmental samples and rinsate blank were also analyzed for TCL semivolatile organic compounds; however, the semivolatile results were validated as part of SDG 95-03-109. No field duplicate pairs were included in the SDG.

The samples were collected by Halliburton NUS on March 16th, and March 17th, 1995 and were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None noted.

Minor Problems

- An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for carbon disulfide. The positive result for carbon disulfide in sample TB-031695-01 was qualified as estimated, J. The direction of bias cannot be determined.

- An initial calibration %RSD exceeded the 30% quality control limit for acetone. The positive result for acetone in sample 09-SB17-1416 was qualified as estimated, J. The direction of bias cannot be determined.

- Continuing calibration percent differences (%Ds) exceeded 50% for acetone. Nondetected results were qualified as estimated, UJ, in all remaining solid samples. The direction of bias cannot be determined.

- The following compounds were detected in the laboratory method blanks or field quality control blanks (*):

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Methylene chloride | 2 µg/Kg | 20 µg/Kg |
| Toluene* | 2 µg/L | 10 µg/Kg |
| Carbon disulfide* | 2 µg/L | 10 µg/Kg |

  Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for methylene chloride below the blank action level were qualified as false positives, B.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Initial calibration %RSDs exceeded 30%, but were less than 50% for chloromethane, carbon disulfide, acetone, and 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for chloroethane, acetone, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone. Therefore, nondetected results were not qualified on this basis.

A continuing calibration %D exceeded 15% but was less than the 30% quality control limit for 3-nitrotoluene. Therefore, no validation action was required on this basis.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Several compounds did not meet the initial and continuing calibration quality control limits in the volatile fraction. Methylene chloride was detected in the laboratory method blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 20, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/EXP**
**CTO 180, NSWC WHITE OAK, MD**
**SDG 95-03-109**

**SAMPLES:** 10/Solid/

| | | |
|---|---|---|
| 11-LW-03* | 09-SB10-1214* | 09-SB11-1012* |
| 09-SB16-1012* | 09-SB17-1416* | 09-SB18-1012* |
| 09-SB20-1416* | 11-SB01-1416 | 11-SB05-1416 |
| 11-SB11-1214 | | |

3/Aqueous/

| | | |
|---|---|---|
| RB-031595-01 | RB-031795-01* | TB-031595-01 |

OVERVIEW

The sample set for CTO 180, SDG 95-03-109, NSWC White Oak, MD consists of ten (10) solid environmental samples and three (3) aqueous quality control samples analyzed for Target Compound List (TCL) volatile organic compounds. The solid environmental samples and rinsate blanks (RB) were also analyzed for TCL semivolatile organic compounds and explosives. Samples designated * were validated for semivolatile analysis only. The validation of the VOA and explosive fractions for these samples were covered under SDG 11LW03. No field duplicate pairs were included in the SDG.

The samples were collected by Halliburton NUS on March 15-17th, 1995 and were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed with the exception of those results which were rejected. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- Surrogate recovery of 1,4-dichlorobenzene-d4 in sample 09-SB11-1012 fell below the 10% quality control limit. Nondetected results for 1,2-; 1,3-; and 1,4-dichlorobenzene were qualified as rejected, UR.

Minor Problems

- An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for acetone. Nondetected results for acetone in samples RB-031595-01 and TB-031595-01 were qualified as estimated, UJ. The direction of bias cannot be determined.

- Continuing calibration percent differences (%Ds) exceeded 50% for acetone. The nondetected result was qualified as estimated, UJ, in sample 11-SB11-1214. The direction of bias cannot be determined.

- Continuing calibration %Ds exceeded 50% for hexachlorocyclopentadiene and di-n-octyl phthalate. The nondetected results were qualified as estimated, UJ, in samples 09-SB10-1214, 09-SB18-1012, 11-SB01-1416, 11-SB05-1416, and 11-SB11-1214. The direction of bias cannot be determined.

- The following compounds were detected in the laboratory method blanks:

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Methylene chloride | 4 µg/Kg | 40 µg/Kg |
| Methylene chloride | 6 µg/L | 60 µg/L |
| Di-n-butyl phthalate | 48 µg/Kg | 480 µg/Kg |

  Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for methylene chloride and di-n-butyl phthalate below the blank action level were qualified as false positives, B.

- The following samples were extracted beyond the seven day holding time: 09-SB10-1214, 09-SB18-1012, 11-SB01-1416, 11-SB05-1416, and 11-SB11-1214. Nondetected results were qualified as estimated, UJ. The direction of bias cannot be determined.

- Surrogate recovery of bromofluorobenzene exceeded the upper quality control limit in sample 11-SB-1012. Positive and nondetected results were qualified as estimated, J and UJ. The direction of bias cannot be determined.

- Surrogate recovery of 4-nitroaniline in sample RB-031595-01 was 20%. Since no quality control limits were provided by the laboratory, a range of 30-150% was used to establish the acceptance range. Nondetected results in sample RB-031595-01 were qualified as estimated, UJ, on this basis. The direction of bias cannot be determined.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Initial calibration %RSDs exceeded 30%, but were less than 50% for bromomethane, chloroethane, acetone, and 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for 4-nitrophenol, 4-nitroaniline, hexachlorocyclopentadiene, butyl benzyl phthalate, bis(2-ethylhexyl)phthalate, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene. Therefore, nondetected results were not qualified on this basis.

Due to surrogate recoveries below the 10% quality control limit, several semivolatile samples were re-extracted and re-analyzed beyond the seven day holding time for extraction. Since the qualification for holding time was less severe than the qualification due to surrogate recovery, the re-extraction/re-analysis was used as the basis for data validation.

Surrogate recoveries for 2-fluorophenol and 1,4-dichlorobenzene-d4 were less than the quality control limit in several samples. No qualification was required on this basis since only one surrogate per fraction was noncompliant.

Internal standard recovery of perylene-d12 was less than the lower quality control limit in method blank SBLKB. No qualifiers were assigned on this basis since the associated environmental samples did not appear to have been adversely affected.

Unknowns and solvent artifacts detected in the semivolatile method blanks should be considered as false positives where detected in the semivolatile samples.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Several semivolatile samples were extracted beyond the seven day holding time. Surrogate recovery fell below 10% in the semivolatile fraction. Several compounds did not meet the initial and continuing calibration quality control limits in the volatile and semivolatile fractions. Methylene chloride and di-n-butyl phthalate were detected in the laboratory method blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 20, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/EXP**
**CTO 180, NSWC WHITE OAK, MD**
**SDG 11LW06**

**SAMPLES:** 4/Solid/

| | | |
|---|---|---|
| 11-LW-06 | 11-SB08-1416 | 11-SB09-1416 |
| 11-SB10-1012 | | |

4/Aqueous/

| | | |
|---|---|---|
| FB-030895-1 | RB-030895-1 | TB-030895-1 |
| TB3149501 | | |

OVERVIEW

The sample set for CTO 180, SDG 11LW06, NSWC White Oak, MD consists of four (4) solid environmental samples and four (4) aqueous quality control samples analyzed for Target Compound List (TCL) volatile organic compounds. The solid environmental samples, field blanks (FB) and rinsate blanks (RB) were also analyzed for TCL semivolatile organic compounds and explosives. No field duplicate pairs were included in the SDG.

The samples were collected by Halliburton NUS on March 8th, and March 14th, 1995 and were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed with the exception of those results which were rejected. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- Surrogate recovery of 1,2-dichlorobenzene-d4 in samples 11-SB08-1416 and 11-SB09-1012 fell below the 10% quality control limit. Nondetected results for 1,2-; 1,3-; and 1,4-dichlorobenzene were qualified as rejected, UR.

- Surrogate recovery of 4-nitroaniline fell below the 10% quality control limit in sample FB-030895-1. Nondetected results were rejected, UR.

Minor Problems

- An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for acetone. The positive result for acetone in sample 11-SB10-1416 was qualified as estimated, J. The direction of bias cannot be determined.

- Continuing calibration percent differences (%Ds) exceeded 50% for acetone. Nondetected results were qualified as estimated, UJ, in samples 11-SB08-1416 and 11-SB09-1012. The direction of bias cannot be determined.

- The following compounds were detected in the laboratory method blanks:

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Methylene chloride | 4 µg/Kg | 40 µg/Kg |
| Di-n-butyl phthalate | 54 µg/Kg | 540 µg/Kg |

  Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for methylene chloride and di-n-butyl phthalate below the blank action level were qualified as false positives, B.

- Surrogate recovery of bromofluorobenzene exceeded the upper quality control limit in sample 11-SB-1012. Positive and nondetected results were qualified as estimated, J and UJ. The direction of bias cannot be determined.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Initial calibration %RSDs exceeded 30%, but were less than 50% for acetone and 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for acetone, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, and chloromethane. Therefore, nondetected results were not qualified on this basis.

The field blank FB-030895-1 contained methylene chloride, chloroform, bromodichloromethane, and dibromochloromethane. The blank was not used for validation purposes since the presence of the trihalomethanes indicated the water was from a potable source.

Surrogate recovery of 2-fluorophenol and 1,2-dichlorobenzene-d4 fell below the lower quality control limit in several samples. No qualifiers were required on this basis since only one surrogate per fraction was noncompliant.

A continuing calibration %D exceeded 25% but was less than the 50% quality control limit for 4-nitroaniline. Therefore, no validation action was required on this basis.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Surrogate recovery fell below 10% in both the semivolatile and explosive fractions. Several compounds did not meet the initial and continuing calibration quality control limits in the volatile fraction. Methylene chloride and di-n-butyl phthalate were detected in the laboratory method blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **MAY 24, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/EXP**
**CTO 180, NSWC WHITE OAK, MD**
**SDG 95-03-228**

**SAMPLES:** 4/Solid/

04-SB01-1216 04-SB02-1216 04-SB03-1214
11-SB07-0607

2/Aqueous/

RB-032995-1 TB-032995-1

OVERVIEW

The sample set for CTO 180, SDG 95-03-228, NSWC White Oak, MD consists of four (4) solid environmental samples and two (2) aqueous quality control samples analyzed for Target Compound List (TCL) volatile organic compounds. The solid environmental samples and rinsate blank (RB) were also analyzed for TCL semivolatile organic compounds and explosives. No field duplicate pairs were included in the SDG.

The samples were collected by Halliburton NUS on March 29th, 1995 and were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 and SW-846 Method 8330 analytical and reporting protocols.

All samples were successfully analyzed. The findings offered in this report are based upon a general review of all available data including: data completeness, holding times, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None noted.

Minor Problems

- Continuing calibration percent differences (%Ds) exceeded 50% for hexachlorocyclopentadiene. Nondetected results were qualified as estimated, UJ, in all samples (aqueous and solid). The direction of bias cannot be determined.

- A continuing calibration %D exceeded 25% for bis(2-ethylhexyl)phthalate. The positive result in sample RB-032995-01 was qualified as estimated, J. The direction of bias cannot be determined.

- The following compounds were detected in the field quality control blanks:

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Methylene chloride | 6 µg/L | 60 µg/Kg |
| bis(2-ethylhexyl)phthalate | 4 µg/L | 1160 µg/Kg |

  Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for methylene chloride and di-n-butyl phthalate below the blank action level were qualified as false positives, B.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Initial calibration percent relative standard deviations (%RSDs) exceeded 30%, but were less than 50% for chloromethane, carbon disulfide, acetone, and 2-butanone. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for acetone, 2-butanone, and chloroethane. Therefore, nondetected results were not qualified on this basis.

Continuing calibration %Ds exceeded 25% but were less than 50% for 4-nitrophenol, pentachlorophenol, butylbenzyl phthalate, bis(2-ethylhexyl)phthalate, di-n-octyl phthalate, and 2,4-dinitrophenol. Therefore, nondetected results were not qualified on this basis.

Surrogate recovery of 2,4,6-tribromophenol exceeded the upper quality control limit in method blank SBLKB and sample RB-032995-01. No qualifiers were assigned on this basis since only one surrogate was noncompliant.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Several compounds did not meet the initial and continuing calibration quality control limits in the volatile fraction. Methylene chloride and bis(2-ethylhexyl)phthalate were detected in the field quality control blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. RON KOTUN** | **DATE:** | **JUNE 7, 1999** |
| **FROM:** | **LINDA KARSONOVICH** | **COPIES:** | **DV FILE** |
| **SUBJECT:** | **ORGANIC DATA VALIDATION- PCB<br>CTO 180/298, NSWC WHITE OAK, MD<br>SDG 95-03-221** | | |

**SAMPLES:** 10/Solid/

| | | |
|---|---|---|
| 04-SB09-0809 | 02-SD-02 | 02-SD-05 |
| 02-SD-06 | 02-SD-07 | 02-SD-011 |
| 02-SD-19 | 02-SD-21 | 02-SD-23 |
| 02-SD-28 | | |

OVERVIEW

The sample set for CTO 180, SDG 95-03-221, NSWC White Oak, MD consists of ten (10) solid environmental samples analyzed for Target Compound List (TCL) polychlorinated biphenyls. No field duplicate pairs were included in the SDG.

The samples were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 analytical and reporting protocols.

All samples were successfully analyzed. The findings offered in this report are based upon a general review of all available data including: data completeness, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None noted.

Minor Problems

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Chain of custody documentation for these samples could not be located. Therefore, the holding time from sample collection to extraction was not evaluated.

Surrogate recoveries were noncompliant for several samples due to the necessary dilution of the sample extract. No qualifiers were assigned on this basis.

Samples 02-SD-11 and 02-SD-19 were analyzed and reported at a 500X dilution due to the presence of PCB 1260 above the instrument's linear calibration range.

Samples 02-SD-21 and 02-SD-28 were analyzed and reported at a 10X and 50X dilution factor, respectively, due to the presence of target compounds above the instrument's linear calibration range.

GC/MS confirmation was not conducted for samples 02-SD-011, 09-SD-19, and 02-SD-28.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. None.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Linda Karsonovich
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

**TO:** **MR. RON KOTUN** **DATE:** **JUNE 7, 1999**

**FROM:** **LINDA KARSONOVICH** **COPIES:** **DV FILE**

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/SVOA/PEST/PCB**
**CTO 180, NSWC WHITE OAK, MD**
**SDG 95-06-083**

**SAMPLES:** 10/Solid/

| | | |
|---|---|---|
| 04-SB25 | 04-SB26 | 04-SB26-D |
| 04-SB27 | 04-SB28 | 04-SB29 |
| AFI-SO01* | AFI-SO01-D* | AFI-SO02* |
| AFI-SO03* | | |

3/Aqueous/

| | | |
|---|---|---|
| 04-SB29-R | 04-SB24-T | AFI-SO03-R* |

OVERVIEW

The sample set for CTO 180, SDG 95-06-083, NSWC White Oak, MD consists of ten (10) solid environmental samples and three (3) aqueous quality control samples. Samples designated * were analyzed for Target Compound List (TCL) pesticides and PCBs. The remaining samples were also analyzed for TCL semivolatile organic compounds and trichloroethene. Sample 04-SB24-T was analyzed for trichloroethene only. Two field duplicate pairs were included in the SDG: 04-SB26 and 04-SB26-D; AFI-SO01 and AFI-SO01-D.

The samples were analyzed by GP Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLM03.1 analytical and reporting protocols.

All samples were successfully analyzed with the exception of those results which were rejected. The findings offered in this report are based upon a general review of all available data including: data completeness, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, matrix spike/matrix spike duplicate results, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- The percent difference between columns exceeded 100% for 4,4'-DDD in sample AFI-SO01. The positive result was rejected, R.

Minor Problems

- The following compounds were detected in the field quality control blanks (*):

| Compound | Maximum Concentration | Blank Action Level |
|---|---|---|
| Trichloroethene* | 2 µg/L | 10 µg/Kg |
| Di-n-butyl phthalate* | 4 µg/L | 125 µg/Kg |

Sample aliquot, dilutions, and percent solids were taken into consideration when applying the blank action level. Positive results for trichloroethene and di-n-butyl phthalate below the blank action level were qualified as false positives, B.

- The percent difference between columns exceeded 25% for 4,4'-DDT and Dieldrin in sample AFI-SO02. The positive results were qualified as estimated, J. The direction of bias cannot be determined.

- Positive results below the CRQL were qualified as estimated, J, due to uncertainty near the detection limit. The direction of bias cannot be determined.

Notes

Chain of custody documentation could not be located for these samples. Therefore, holding time from sample collection to extraction was not evaluated.

Continuing calibration %Ds exceeded 25% but were less than 50% for 2-methylphenol and 2,2'-oxybis(1-chloropropane). Therefore, nondetected results were not qualified on this basis.

Several matrix spike and matrix spike duplicate recoveries were noncompliant in both the semivolatile and volatile fractions. The compounds were not detected in the unspiked samples; therefore, no qualifiers were assigned on this basis.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:**. Percent differences between columns exceeded the criteria in the pesticide fraction. Trichloroethene and di-n-butyl phthalate were detected in the field quality control blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III and the NFESC guidelines "Navy Installation Restoration Program Laboratory Quality Assurance Guide" (February, 1996). The text of this report has been formulated to address only those problem areas affecting data quality.

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