# MEMO

N60211_000323
CROWS LANDING
SSIC NO. 5090.3.A

**Date:** September 7, 2001

**To:** Bob Hulet
Dave Kelly

**From:** Rose Condit

**Re:** Data validation findings for samples collected 5/3/01 from the Former Sewer System Oxidation Basin

I have completed the validation on both soil samples collected on 5/3/01 from the Former Sewer System Oxidation Basin. Here are my findings:

- None of the data has been rejected for analytical deficiencies.
- A few VOC and SVOC compounds have been "J" qualified (estimated concentrations) due to minor calibration deficiencies.
- No data qualification was necessary for the metals, pesticides, PCBs or TPH analysis. These analyses met all of the quality control requirements for the method.

I have tabulated the data and added the applicable data qualifiers. All of the data are valid and usable for project decisions. If you need more information please contact me.

**IT CORPORATION**
*A Member of The IT Group*

## IT TRANSMITTAL/DELIVERABLE RECEIPT

**CONTRACT : N62474-98-D-2076** **DOCUMENT CONTROL NUMBER : 2034.0**

**TO:** Administrative Contract Officer
Navy Regional Environmental Contracts
NAVFACENGCOM-SWDIV
Michelle Crook. 02R1.MC
1230 Columbia St., Suite 1100
San Diego. CA 92101

**Date :** September 11, 2001

**CTO :** 0004

**Location:** NASA Crows Landing

**FROM:** Bob Hulet
Bob Hulet
Project Manager

**DESCRIPTION OF ENCLOSURE :** ***Former Sewer System Oxidation Basin validated results, National Aeronautic Space Administration, NASA Crows Landing Flight Facility, Revision 0, dated September 10, 2001.***

**TYPE :** CTO Deliverable

**VERSION :** **REVISION No : 0**

**ADMIN RECORD :** Yes

**SCHEDULED DELIVERY DATE** September 11, 2001 **ACTUAL DELIVERY DATE** September 11, 2001

**NUMBER OF COPIES SUBMITTED TO THE NAVY:** 1/O, 4/C, 9/E
[AS REQUIRED/DIRECTED BY THE SOW]

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Dave Kelly, Concord (1C/1E)
Dave Peet, Concord (1C/1E)
Eddie Ramirez, Concord (1C/1E)

**Other**

*Date/Time Received* _____/_____

**Summary of Analytical Results- Former Sewer System Oxidation Basin**

| Sample ID | | Drum | | SI-01 | |
|---|---|---|---|---|---|
| Sample Location | | Waste Drum | | Surface Impoundment Area | |
| Date Collected | | 5/3/01 | | 5/3/01 | |
| **Analyte** | **Units** | **Result** | **Qlfr** | **Result** | **Qlfr** |
| **Metals (EPA 6010B/7000)** | | | | | |
| ANTIMONY | mg/kg | 10.8 | | 16.4 | J |
| ARSENIC | mg/kg | 20.1 | | 47.7 | |
| BARIUM | mg/kg | 778 | | 1750 | |
| BERYLLIUM | mg/kg | 0.017 | J | 2.2 | J |
| CADMIUM | mg/kg | 15.2 | | 12.9 | |
| CHROMIUM | mg/kg | 96.8 | | 127 | |
| COBALT | mg/kg | 16 | | 23.4 | |
| COPPER | mg/kg | 466 | | 408 | |
| LEAD | mg/kg | 1260 | | 2230 | |
| MERCURY | mg/kg | 0.085 | J | 0.095 | J |
| MOLYBDENUM | mg/kg | 2 | | 9.3 | |
| NICKEL | mg/kg | 72.1 | | 74.5 | |
| SELENIUM | mg/kg | 0.56 | U | 5.5 | U |
| SILVER | mg/kg | 2.8 | | 3.6 | J |
| THALLIUM | mg/kg | 0.56 | U | 5.5 | U |
| VANADIUM | mg/kg | 52.5 | | 23 | |
| ZINC | mg/kg | 2120 | | 6690 | |
| **PCBs (EPA 8082)** | | | | | |
| AROCLOR-1016 | ug/kg | 56 | U | 55 | U |
| AROCLOR-1221 | ug/kg | 110 | U | 110 | U |
| AROCLOR-1232 | ug/kg | 56 | U | 55 | U |
| AROCLOR-1242 | ug/kg | 56 | U | 55 | U |
| AROCLOR-1248 | ug/kg | 56 | U | 55 | U |
| AROCLOR-1254 | ug/kg | 28 | U | 28 | U |
| AROCLOR-1260 | ug/kg | 28 | U | 28 | U |
| **Pesticides (EPA 8081)** | | | | | |
| 4,4'-DDD | ug/kg | 2.2 | U | 2.2 | U |
| 4,4'-DDE | ug/kg | 6 | | 4 | |
| 4,4'-DDT | ug/kg | 11 | | 4 | |
| ALDRIN | ug/kg | 1.1 | U | 1.1 | U |
| ALPHA-BHC | ug/kg | 1.1 | U | 1.1 | U |
| ALPHA-CHLORDANE | ug/kg | 1.1 | U | 1.1 | U |
| BETA-BHC | ug/kg | 1.1 | U | 1.1 | U |
| DELTA-BHC | ug/kg | 1.1 | U | 1.1 | U |
| DIELDRIN | ug/kg | 2.2 | U | 2.2 | U |
| ENDOSULFAN I | ug/kg | 1.1 | U | 1.1 | U |
| ENDOSULFAN II | ug/kg | 2.2 | U | 2.2 | U |
| ENDOSULFAN SULFATE | ug/kg | 5.6 | U | 5.5 | U |
| ENDRIN | ug/kg | 2.2 | U | 2.2 | U |
| ENDRIN ALDEHYDE | ug/kg | 2.2 | U | 2.2 | U |
| ENDRIN KETONE | ug/kg | 2.2 | U | 2.2 | U |
| GAMMA-BHC (LINDANE) | ug/kg | 1.1 | U | 1.1 | U |
| GAMMA-CHLORDANE | ug/kg | 1.1 | U | 1.1 | U |
| HEPTACHLOR | ug/kg | 1.1 | U | 1.1 | U |
| HEPTACHLOR EPOXIDE | ug/kg | 1.1 | U | 1.1 | U |
| METHOXYCHLOR | ug/kg | 11 | U | 11 | U |
| TOXAPHENE | ug/kg | 110 | U | 110 | U |
| **EPA 8270C** | | | | | |
| 2,4,5-TRICHLOROPHENOL | ug/kg | 1100 | U | 550 | U |
| 2,4,6-TRICHLOROPHENOL | ug/kg | 1100 | U | 550 | U |
| 2,4-DICHLOROPHENOL | ug/kg | 1100 | U | 550 | U |
| 2,4-DIMETHYLPHENOL | ug/kg | 1100 | U | 550 | U |
| 2,4-DINITROPHENOL | ug/kg | 5600 | UJ | 2800 | UJ |
| 2,4-DINITROTOLUENE | ug/kg | 1100 | U | 550 | U |

**Summary of Analytical Results- Former Sewer System Oxidation Basin**

| Sample ID | | Drum | | SI-01 | |
|---|---|---|---|---|---|
| Sample Location | | Waste Drum | | Surface Impoundment Area | |
| Date Collected | | 5/3/01 | | 5/3/01 | |
| Analyte | Units | Result | Qlfr | Result | Qlfr |
| Metals (EPA 6010B/7000) | | | | | |
| 2,6-DINITROTOLUENE | ug/kg | 1100 | U | 550 | U |
| 2-CHLORONAPHTHALENE | ug/kg | 1100 | U | 550 | U |
| 2-CHLOROPHENOL | ug/kg | 1100 | U | 550 | U |
| 2-METHYLNAPHTHALENE | ug/kg | 1100 | U | 550 | U |
| 2-METHYLPHENOL (O-CRESOL) | ug/kg | 1100 | U | 550 | U |
| 2-NITROANILINE | ug/kg | 5600 | U | 2800 | U |
| 2-NITROPHENOL | ug/kg | 1100 | U | 550 | U |
| 3,3'-DICHLOROBENZIDINE | ug/kg | 2200 | U | 1100 | U |
| 3-NITROANILINE | ug/kg | 5600 | U | 2800 | U |
| 3/4-METHYLPHENOL (M/P-CRESO | ug/kg | 1100 | U | 550 | U |
| 4,6-DINITRO-2-METHYLPHENOL | ug/kg | 5600 | U | 2800 | U |
| 4-BROMOPHENYL PHENYL ETHE | ug/kg | 1100 | U | 550 | U |
| 4-CHLORO-3-METHYLPHENOL | ug/kg | 2200 | U | 1100 | U |
| 4-CHLOROANILINE | ug/kg | 2200 | U | 1100 | U |
| 4-CHLOROPHENYL PHENYL ETHE | ug/kg | 1100 | U | 550 | U |
| 4-NITROANILINE | ug/kg | 5600 | U | 2800 | U |
| 4-NITROPHENOL | ug/kg | 5600 | U | 2800 | U |
| ACENAPHTHENE | ug/kg | 1100 | U | 550 | U |
| ACENAPHTHYLENE | ug/kg | 1100 | U | 550 | U |
| ANTHRACENE | ug/kg | 1100 | U | 550 | U |
| BENZ(A)ANTHRACENE | ug/kg | 1100 | U | 550 | U |
| BENZO(A)PYRENE | ug/kg | 1100 | U | 550 | U |
| BENZO(B)FLUORANTHENE | ug/kg | 1100 | U | 550 | U |
| BENZO(G,H,I)PERYLENE | ug/kg | 1100 | U | 550 | U |
| BENZO(K)FLUORANTHENE | ug/kg | 1100 | U | 550 | U |
| BIS(2-CHLOROETHOXY) METHAN | ug/kg | 1100 | U | 550 | U |
| BIS(2-CHLOROETHYL) ETHER | ug/kg | 1100 | U | 550 | U |
| BIS(2-CHLOROISOPROPYL) ETHER | ug/kg | 1100 | U | 550 | U |
| BIS(2-ETHYLHEXYL) PHTHALATE | ug/kg | 1100 | UJ | 550 | UJ |
| BUTYL BENZYL PHTHALATE (BB | ug/kg | 1100 | UJ | 550 | UJ |
| CHRYSENE | ug/kg | 1100 | U | 550 | U |
| DI-N-BUTYL PHTHALATE (DBP) | ug/kg | 1100 | U | 550 | U |
| DI-N-OCTYL PHTHALATE (DOP) | ug/kg | 1100 | U | 550 | U |
| DIBENZ(A,H)ANTHRACENE | ug/kg | 1100 | U | 550 | U |
| DIBENZOFURAN | ug/kg | 1100 | U | 550 | U |
| DIETHYL PHTHALATE (DEP) | ug/kg | 1100 | U | 550 | U |
| DIMETHYL PHTHALATE (DMP) | ug/kg | 1100 | U | 550 | U |
| FLUORANTHENE | ug/kg | 1100 | U | 550 | U |
| FLUORENE | ug/kg | 1100 | U | 550 | U |
| HEXACHLOROBENZENE | ug/kg | 1100 | U | 550 | U |
| HEXACHLOROCYCLOPENTADIEN | ug/kg | 1100 | U | 550 | U |
| INDENO(1,2,3-CD)PYRENE | ug/kg | 1100 | U | 550 | U |
| ISOPHORONE | ug/kg | 1100 | U | 550 | U |
| N-NITROSO-DI-N-PROPYLAMINE | ug/kg | 1100 | U | 550 | U |
| N-NITROSODIPHENYLAMINE | ug/kg | 1400 | U | 680 | U |
| PENTACHLOROPHENOL (PCP) | ug/kg | 5600 | U | 2800 | U |
| PHENANTHRENE | ug/kg | 1100 | U | 550 | U |
| PHENOL | ug/kg | 1100 | U | 550 | U |
| PYRENE | ug/kg | 1100 | U | 550 | U |
| 1,2,4-TRICHLOROBENZENE | ug/kg | 1100 | U | 550 | U |
| 1,2-DICHLOROBENZENE | ug/kg | 1100 | U | 550 | U |
| 1,3-DICHLOROBENZENE | ug/kg | 1100 | U | 550 | U |
| 1,4-DICHLOROBENZENE | ug/kg | 1100 | U | 550 | U |
| HEXACHLOROBUTADIENE | ug/kg | 1100 | U | 550 | U |

**Summary of Analytical Results- Former Sewer System Oxidation Basin**

| Sample ID | | Drum | | SI-01 | |
|---|---|---|---|---|---|
| Sample Location | | Waste Drum | | Surface Impoundment Area | |
| Date Collected | | 5/3/01 | | 5/3/01 | |
| Analyte | Units | Result | Qlfr | Result | Qlfr |
| **Metals (EPA 6010B/7000)** | | | | | |
| HEXACHLOROETHANE | ug/kg | 1100 | U | 550 | U |
| NAPHTHALENE | ug/kg | 1100 | U | 550 | U |
| NITROBENZENE | ug/kg | 1100 | U | 550 | U |
| **TPH ( EPA 8015B)** | | | | | |
| GASOLINE RANGE ORGANICS | mg/kg | 0.56 | U | 0.55 | U |
| JP-4 | mg/kg | 1.1 | U | 1.1 | U |
| DIESEL RANGE ORGANICS | mg/kg | 15 | | 9 | J |
| MOTOR OIL RANGE ORGANICS | mg/kg | 69 | | 30 | |
| **VOCs (EPA 8260B)** | | | | | |
| 1,1,1,2-TETRACHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,1,1-TRICHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,1,2,2-TETRACHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,1,2-TRICHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,1-DICHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,1-DICHLOROETHENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,1-DICHLOROPROPENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2,3-TRICHLOROBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2,3-TRICHLOROPROPANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2,4-TRICHLOROBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2,4-TRIMETHYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2-DIBROMO-3-CHLOROPROPANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2-DIBROMOETHANE (EDB) | ug/kg | 5.6 | U | 5.7 | U |
| 1,2-DICHLOROBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2-DICHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,2-DICHLOROPROPANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,3,5-TRIMETHYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,3-DICHLOROBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 1,3-DICHLOROPROPANE | ug/kg | 5.6 | U | 5.7 | U |
| 1,4-DICHLOROBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| 2,2-DICHLOROPROPANE | ug/kg | 5.6 | U | 5.7 | U |
| 2-BUTANONE (MEK) | ug/kg | 110 | U | 110 | U |
| 2-CHLOROTOLUENE | ug/kg | 5.6 | U | 5.7 | U |
| 2-HEXANONE | ug/kg | 56 | U | 57 | U |
| 4-CHLOROTOLUENE | ug/kg | 5.6 | U | 5.7 | U |
| 4-METHYL-2-PENTANONE (MIBK) | ug/kg | 56 | U | 57 | U |
| ACETONE | ug/kg | 27 | UJ | 28 | UJ |
| BENZENE | ug/kg | 1 | J | 0.4 | J |
| BROMOBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| BROMOCHLOROMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| BROMODICHLOROMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| BROMOFORM | ug/kg | 5.6 | U | 5.7 | U |
| BROMOMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| CARBON DISULFIDE | ug/kg | 110 | U | 110 | U |
| CARBON TETRACHLORIDE | ug/kg | 5.6 | U | 5.7 | U |
| CHLOROBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| CHLOROETHANE | ug/kg | 5.6 | U | 5.7 | U |
| CHLOROFORM | ug/kg | 5.6 | U | 5.7 | U |
| CHLOROMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| CIS-1,2-DICHLOROETHENE | ug/kg | 5.6 | U | 5.7 | U |
| CIS-1,3-DICHLOROPROPENE | ug/kg | 5.6 | U | 5.7 | U |
| DIBROMOCHLOROMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| DIBROMOMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| DICHLORODIFLUOROMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| ETHYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |

**Summary of Analytical Results- Former Sewer System Oxidation Basin**

| Sample ID | | Drum | | SI-01 | |
|---|---|---|---|---|---|
| Sample Location | | Waste Drum | | Surface Impoundment Area | |
| Date Collected | | 5/3/01 | | 5/3/01 | |
| Analyte | Units | Result | Qlfr | Result | Qlfr |
| Metals (EPA 6010B/7000) | | | | | |
| HEXACHLOROBUTADIENE | ug/kg | 5.6 | U | 5.7 | U |
| ISOPROPYLBENZENE (CUMENE) | ug/kg | 4 | J | 5.7 | U |
| METHYL-T-BYTYL ETHER (MTBE) | ug/kg | 5.6 | UJ | 5.7 | UJ |
| METHYLENE CHLORIDE | ug/kg | 5.6 | U | 5.7 | U |
| N-BUTYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| N-PROPYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| NAPHTHALENE | ug/kg | 5.6 | U | 5.7 | U |
| P-ISOPROPYLTOLUENE | ug/kg | 5.6 | U | 5.7 | U |
| SEC-BUTYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| STYRENE | ug/kg | 5.6 | U | 5.7 | U |
| TERT-BUTYLBENZENE | ug/kg | 5.6 | U | 5.7 | U |
| TETRACHLOROETHENE | ug/kg | 5.6 | U | 5.7 | U |
| TOLUENE | ug/kg | 0.7 | J | 5.7 | U |
| TRANS-1,2-DICHLOROETHENE | ug/kg | 5.6 | UJ | 5.7 | UJ |
| TRANS-1,3-DICHLOROPROPENE | ug/kg | 5.6 | U | 5.7 | U |
| TRICHLOROETHENE | ug/kg | 5.6 | U | 5.7 | U |
| TRICHLOROFLUOROMETHANE | ug/kg | 5.6 | U | 5.7 | U |
| VINYL CHLORIDE | ug/kg | 5.6 | U | 5.7 | U |
| XYLENE (TOTAL) | ug/kg | 11 | U | 11 | U |

*U qualifier indicates that the analyte was analyzed for, but not detected at the specified reporting limit.*
*J qualifier indicates that the analyte the quantitation is an estimate*

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

May 23, 2001

The IT Group
Attention: Rose Condit
4005 Port Chicago Highway
Concord, CA 94520-1120

Dear Rose,

This package contains samples in our Service ID 01-3390 and your project Crows Landing. Enclosed please find:

(1) Original report.
(2) Oringinal Chain of Custody.
(3) One original and one copy of Level C Data Package Deliverable.
(4) One Diskette containing EDD Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

# APCL Analytical Report

Submitted to:
The IT Group
Attention: Rose Condit
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)288-0888

Service ID #: 801-013390
Collected by: R. Condit
Collected on: 05/03/01

Received: 05/04/01
Extracted: 05/07-16/01
Tested: 05/04-17/01
Reported: 05/18/01

Sample Description: Soil from Crows Landing
Project Description: 800063 Crows Landing

## Analysis of Soil Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 1A 01-03390-1 | Drum 01-03390-(2 to 5) | SI-01 01-03390-6 |
|---|---|---|---|---|---|---|
| **PERCENT MOISTURE** | ASTM-D2216 | W% | 0.5 | 11.0 [a] | 11.0 | 9.9 |
| **PH** | 9045 | pH unit | 0.01 | - | 8.60 | - |

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 01-03390-(2 to 5) | SI-01 01-03390-6 |
|---|---|---|---|---|---|
| **TTLC 17 METALS** | | | | | |
| Dilution Factor | | | | 1 | 1 |
| ANTIMONY | 6010 | mg/kg | 5 | 10.8 | 16.4 |
| ARSENIC | 6010 | mg/kg | 0.3 | 20.1 | 47.7 |
| BARIUM | 6010 | mg/kg | 1 | 778 | 1,750 |
| BERYLLIUM | 6010 | mg/kg | 0.2 | 0.017J | <0.22 |
| CADMIUM | 6010 | mg/kg | 0.2 | 15.2 | 12.9 |
| CHROMIUM | 6010 | mg/kg | 0.5 | 96.8 | 127 |
| COBALT | 6010 | mg/kg | 0.5 | 16.0 | 23.4 |
| COPPER | 6010 | mg/kg | 0.5 | 466 | 408 |
| LEAD | 6010 | mg/kg | 0.3 | 1,260 | 2,230 |
| MERCURY | 7471 | mg/kg | 0.2 | 0.085J | 0.095J |
| MOLYBDENUM | 6010 | mg/kg | 0.2 | 2.0 | 9.3 |
| NICKEL | 6010 | mg/kg | 0.3 | 72.1 | 74.5 |
| SELENIUM | 6010 | mg/kg | 0.5 | <0.56 | <0.55 |
| SILVER | 6010 | mg/kg | 0.5 | 2.8 | 3.6 |
| THALLIUM | 6010 | mg/kg | 0.5 | <0.56 | <0.55 |
| VANADIUM | 6010 | mg/kg | 0.5 | 52.5 | 23.0 |
| Dilution Factor | | | | 1 | 10 |
| ZINC | 6010 | mg/kg | 0.5 | 2,120 | 6,690 |
| Dilution Factor | | | | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/kg | 0.5 | <0.56 [b] | <0.55 |
| Dilution Factor | | | | 1 | 1 |
| **JP-4** | M8015V | mg/kg | 1 | <1.1 [b] | <1.1 |
| Dilution Factor | | | | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/kg | 10 | 15 [b] | 9J |
| Dilution Factor | | | | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/kg | 10 | 69 [b] | 30 |

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 01-03390-(2 to 5) | SI-01 01-03390-6 |
|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | |
| Dilution Factor | | | | 1 | 1.02 |
| ACETONE | 8260 | µg/kg | 100 | - | 28J |
| BENZENE | 8260 | µg/kg | 5 | - | 0.4J |
| BROMOBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| BROMOCHLOROMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| BROMODICHLOROMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| BROMOFORM | 8260 | µg/kg | 5 | - | <5.7 |
| BROMOMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| 2-BUTANONE (MEK) | 8260 | µg/kg | 100 | - | <110 |
| N-BUTYLBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| SEC-BUTYLBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| TERT-BUTYLBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| CARBON DISULFIDE | 8260 | µg/kg | 100 | - | <110 |
| CARBON TETRACHLORIDE | 8260 | µg/kg | 5 | - | <5.7 |
| CHLOROBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| DIBROMOCHLOROMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| CHLOROETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| CHLOROFORM | 8260 | µg/kg | 5 | - | <5.7 |
| CHLOROMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| 2-CHLOROTOLUENE | 8260 | µg/kg | 5 | - | <5.7 |
| 4-CHLOROTOLUENE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,2-DIBROMOETHANE (EDB) | 8260 | µg/kg | 5 | - | <5.7 |
| DIBROMOMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,2-DICHLOROBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,3-DICHLOROBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,4-DICHLOROBENZENE | 8260 | µg/kg | 5 | - | <5.7 |
| DICHLORODIFLUOROMETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,1-DICHLOROETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,2-DICHLOROETHANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,1-DICHLOROETHENE | 8260 | µg/kg | 5 | - | <5.7 |
| CIS-1,2-DICHLOROETHENE | 8260 | µg/kg | 5 | - | <5.7 |
| TRANS-1,2-DICHLOROETHENE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,2-DICHLOROPROPANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,3-DICHLOROPROPANE | 8260 | µg/kg | 5 | - | <5.7 |
| 2,2-DICHLOROPROPANE | 8260 | µg/kg | 5 | - | <5.7 |
| 1,1-DICHLOROPROPENE | 8260 | µg/kg | 5 | - | <5.7 |
| CIS-1,3-DICHLOROPROPENE | 8260 | µg/kg | 5 | - | <5.7 |
| TRANS-1,3-DICHLOROPROPENE | 8260 | µg/kg | 5 | - | <5.7 |
| ETHYLBENZENE | 8260 | µg/kg | 5 | - | <5.7 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 01-03390-(2 to 5) | SI-01 01-03390-6 |
|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260 | µg/kg | 5 | - | < 5.7 |
| 2-HEXANONE | 8260 | µg/kg | 50 | - | < 57 |
| ISOPROPYLBENZENE (CUMENE) | 8260 | µg/kg | 5 | - | < 5.7 |
| P-ISOPROPYLTOLUENE | 8260 | µg/kg | 5 | - | < 5.7 |
| METHYLENE CHLORIDE | 8260 | µg/kg | 5 | - | < 5.7 |
| 4-METHYL-2-PENTANONE (MIBK) | 8260 | µg/kg | 50 | - | < 57 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260 | µg/kg | 5 | - | < 5.7 |
| NAPHTHALENE | 8260 | µg/kg | 5 | - | < 5.7 |
| N-PROPYLBENZENE | 8260 | µg/kg | 5 | - | < 5.7 |
| STYRENE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,1,1,2-TETRACHLOROETHANE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,1,2,2-TETRACHLOROETHANE | 8260 | µg/kg | 5 | - | < 5.7 |
| TETRACHLOROETHENE | 8260 | µg/kg | 5 | - | < 5.7 |
| TOLUENE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,2,3-TRICHLOROBENZENE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,2,4-TRICHLOROBENZENE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,1,1-TRICHLOROETHANE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,1,2-TRICHLOROETHANE | 8260 | µg/kg | 5 | - | < 5.7 |
| TRICHLOROETHENE | 8260 | µg/kg | 5 | - | < 5.7 |
| TRICHLOROFLUOROMETHANE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,2,3-TRICHLOROPROPANE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,2,4-TRIMETHYLBENZENE | 8260 | µg/kg | 5 | - | < 5.7 |
| 1,3,5-TRIMETHYLBENZENE | 8260 | µg/kg | 5 | - | < 5.7 |
| VINYL CHLORIDE | 8260 | µg/kg | 5 | - | < 5.7 |
| XYLENE (TOTAL) | 8260 | µg/kg | 10 | - | < 11 |
| **SEMI-VOC, 64 COMPOUNDS** | | | | | |
| Dilution Factor | | | | 2 | 1 |
| ACENAPHTHENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| ACENAPHTHYLENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| ANTHRACENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BENZ(A)ANTHRACENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BENZO(A)PYRENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BENZO(B)FLUORANTHENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BENZO(G,H,I)PERYLENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BENZO(K)FLUORANTHENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BIS(2-CHLOROETHOXY) METHANE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BIS(2-CHLOROETHYL) ETHER | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BIS(2-CHLOROISOPROPYL) ETHER | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BIS(2-ETHYLHEXYL) PHTHALATE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| 4-BROMOPHENYL PHENYL ETHER | 8270 | µg/kg | 500 | < 1100 | < 550 |
| BUTYL BENZYL PHTHALATE (BBP) | 8270 | µg/kg | 500 | < 1100 | < 550 |
| 4-CHLORO-3-METHYLPHENOL | 8270 | µg/kg | 1000 | < 2200 | < 1100 |
| 4-CHLOROANILINE | 8270 | µg/kg | 1000 | < 2200 | < 1100 |
| 2-CHLORONAPHTHALENE | 8270 | µg/kg | 500 | < 1100 | < 550 |
| 2-CHLOROPHENOL | 8270 | µg/kg | 500 | < 1100 | < 550 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 01-03390-(2 to 5) | SI-01 01-03390-6 |
|---|---|---|---|---|---|
| 4-CHLOROPHENYL PHENYL ETHER | 8270 | µg/kg | 500 | <1100 | <550 |
| CHRYSENE | 8270 | µg/kg | 500 | <1100 | <550 |
| DI-N-BUTYL PHTHALATE (DBP) | 8270 | µg/kg | 500 | <1100 | <550 |
| DI-N-OCTYL PHTHALATE (DOP) | 8270 | µg/kg | 500 | <1100 | <550 |
| DIBENZ(A,H)ANTHRACENE | 8270 | µg/kg | 500 | <1100 | <550 |
| DIBENZOFURAN | 8270 | µg/kg | 500 | <1100 | <550 |
| 1,2-DICHLOROBENZENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 1,3-DICHLOROBENZENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 1,4-DICHLOROBENZENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 3,3'-DICHLOROBENZIDINE | 8270 | µg/kg | 1000 | <2200 | <1100 |
| 2,4-DICHLOROPHENOL | 8270 | µg/kg | 500 | <1100 | <550 |
| DIETHYL PHTHALATE (DEP) | 8270 | µg/kg | 500 | <1100 | <550 |
| DIMETHYL PHTHALATE (DMP) | 8270 | µg/kg | 500 | <1100 | <550 |
| 2,4-DIMETHYLPHENOL | 8270 | µg/kg | 500 | <1100 | <550 |
| 4,6-DINITRO-2-METHYLPHENOL | 8270 | µg/kg | 2500 | <5600 | <2800 |
| 2,4-DINITROPHENOL | 8270 | µg/kg | 2500 | <5600 | <2800 |
| 2,4-DINITROTOLUENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 2,6-DINITROTOLUENE | 8270 | µg/kg | 500 | <1100 | <550 |
| FLUORANTHENE | 8270 | µg/kg | 500 | <1100 | <550 |
| FLUORENE | 8270 | µg/kg | 500 | <1100 | <550 |
| HEXACHLOROBENZENE | 8270 | µg/kg | 500 | <1100 | <550 |
| HEXACHLOROBUTADIENE | 8270 | µg/kg | 500 | <1100 | <550 |
| HEXACHLOROCYCLOPENTADIENE | 8270 | µg/kg | 500 | <1100 | <550 |
| HEXACHLOROETHANE | 8270 | µg/kg | 500 | <1100 | <550 |
| INDENO(1,2,3-CD)PYRENE | 8270 | µg/kg | 500 | <1100 | <550 |
| ISOPHORONE | 8270 | µg/kg | 500 | <1100 | <550 |
| 2-METHYLNAPHTHALENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 3/4-METHYLPHENOL (M/P-CRESOL) | 8270 | µg/kg | 500 | <1100 | <550 |
| 2-METHYLPHENOL (O-CRESOL) | 8270 | µg/kg | 500 | <1100 | <550 |
| NAPHTHALENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 2-NITROANILINE | 8270 | µg/kg | 2500 | <5600 | <2800 |
| 3-NITROANILINE | 8270 | µg/kg | 2500 | <5600 | <2800 |
| 4-NITROANILINE | 8270 | µg/kg | 2500 | <5600 | <2800 |
| NITROBENZENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 2-NITROPHENOL | 8270 | µg/kg | 500 | <1100 | <550 |
| 4-NITROPHENOL | 8270 | µg/kg | 2500 | <5600 | <2800 |
| N-NITROSO-DI-N-PROPYLAMINE | 8270 | µg/kg | 500 | <1100 | <550 |
| N-NITROSODIPHENYLAMINE | 8270 | µg/kg | 610 (c) | <1400 | <680 |
| PENTACHLOROPHENOL (PCP) | 8270 | µg/kg | 2500 | <5600 | <2800 |
| PHENANTHRENE | 8270 | µg/kg | 500 | <1100 | <550 |
| PHENOL | 8270 | µg/kg | 500 | <1100 | <550 |
| PYRENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 1,2,4-TRICHLOROBENZENE | 8270 | µg/kg | 500 | <1100 | <550 |
| 2,4,5-TRICHLOROPHENOL | 8270 | µg/kg | 500 | <1100 | <550 |
| 2,4,6-TRICHLOROPHENOL | 8270 | µg/kg | 500 | <1100 | <550 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 01-03390-(2 to 5) | SI-01 01-03390-6 |
|---|---|---|---|---|---|
| **ORGANOCHLORINE PESTICIDES** | | | | | |
| Dilution Factor | | | | 1 | 1 |
| ALDRIN | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| BETA-BHC | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| ALPHA-BHC | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| DELTA-BHC | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| GAMMA-BHC (LINDANE) | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| ALPHA-CHLORDANE | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| GAMMA-CHLORDANE | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| 4,4'-DDD | 8081 | µg/kg | 2 | <2.2 | <2.2 |
| 4,4'-DDE | 8081 | µg/kg | 2 | 6.0 | 4 |
| 4,4'-DDT | 8081 | µg/kg | 2 | 11 | 4 |
| DIELDRIN | 8081 | µg/kg | 2 | <2.2 | <2.2 |
| ENDOSULFAN I | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| ENDOSULFAN II | 8081 | µg/kg | 2 | <2.2 | <2.2 |
| ENDOSULFAN SULFATE | 8081 | µg/kg | 5 | <5.6 | <5.5 |
| ENDRIN | 8081 | µg/kg | 2 | <2.2 | <2.2 |
| ENDRIN ALDEHYDE | 8081 | µg/kg | 2 | <2.2 | <2.2 |
| ENDRIN KETONE | 8081 | µg/kg | 2 | <2.2 | <2.2 |
| HEPTACHLOR | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| HEPTACHLOR EPOXIDE | 8081 | µg/kg | 1 | <1.1 | <1.1 |
| METHOXYCHLOR | 8081 | µg/kg | 10 | <11 | <11 |
| TOXAPHENE | 8081 | µg/kg | 100 | <110 | <110 |
| **PCBS** | | | | | |
| Dilution Factor | | | | 1 | 1 |
| AROCLOR-1016 | 8082 | µg/kg | 50 | <56 | <55 |
| AROCLOR-1221 | 8082 | µg/kg | 100 | <110 | <110 |
| AROCLOR-1232 | 8082 | µg/kg | 50 | <56 | <55 |
| AROCLOR-1242 | 8082 | µg/kg | 50 | <56 | <55 |
| AROCLOR-1248 | 8082 | µg/kg | 50 | <56 | <55 |
| AROCLOR-1254 | 8082 | µg/kg | 25 | <28 | <28 |
| AROCLOR-1260 | 8082 | µg/kg | 25 | <28 | <28 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 1A 01-03390-1 |
|---|---|---|---|---|
| VOLATILE ORGANICS | | | | |
| Dilution Factor | | | | 1.21 |
| ACETONE | 8260 | µg/kg | 100 | 27J |
| BENZENE | 8260 | µg/kg | 5 | 1J |
| BROMOBENZENE | 8260 | µg/kg | 5 | <6.8 |
| BROMOCHLOROMETHANE | 8260 | µg/kg | 5 | <6.8 |
| BROMODICHLOROMETHANE | 8260 | µg/kg | 5 | <6.8 |
| BROMOFORM | 8260 | µg/kg | 5 | <6.8 |
| BROMOMETHANE | 8260 | µg/kg | 5 | <6.8 |
| 2-BUTANONE (MEK) | 8260 | µg/kg | 100 | <140 |
| N-BUTYLBENZENE | 8260 | µg/kg | 5 | <6.8 |
| SEC-BUTYLBENZENE | 8260 | µg/kg | 5 | <6.8 |
| TERT-BUTYLBENZENE | 8260 | µg/kg | 5 | <6.8 |
| CARBON DISULFIDE | 8260 | µg/kg | 100 | <140 |
| CARBON TETRACHLORIDE | 8260 | µg/kg | 5 | <6.8 |
| CHLOROBENZENE | 8260 | µg/kg | 5 | <6.8 |
| DIBROMOCHLOROMETHANE | 8260 | µg/kg | 5 | <6.8 |
| CHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| CHLOROFORM | 8260 | µg/kg | 5 | <6.8 |
| CHLOROMETHANE | 8260 | µg/kg | 5 | <6.8 |
| 2-CHLOROTOLUENE | 8260 | µg/kg | 5 | <6.8 |
| 4-CHLOROTOLUENE | 8260 | µg/kg | 5 | <6.8 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260 | µg/kg | 5 | <6.8 |
| 1,2-DIBROMOETHANE (EDB) | 8260 | µg/kg | 5 | <6.8 |
| DIBROMOMETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,2-DICHLOROBENZENE | 8260 | µg/kg | 5 | <6.8 |
| 1,3-DICHLOROBENZENE | 8260 | µg/kg | 5 | <6.8 |
| 1,4-DICHLOROBENZENE | 8260 | µg/kg | 5 | <6.8 |
| DICHLORODIFLUOROMETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,1-DICHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,2-DICHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,1-DICHLOROETHENE | 8260 | µg/kg | 5 | <6.8 |
| CIS-1,2-DICHLOROETHENE | 8260 | µg/kg | 5 | <6.8 |
| TRANS-1,2-DICHLOROETHENE | 8260 | µg/kg | 5 | <6.8 |
| 1,2-DICHLOROPROPANE | 8260 | µg/kg | 5 | <6.8 |
| 1,3-DICHLOROPROPANE | 8260 | µg/kg | 5 | <6.8 |
| 2,2-DICHLOROPROPANE | 8260 | µg/kg | 5 | <6.8 |
| 1,1-DICHLOROPROPENE | 8260 | µg/kg | 5 | <6.8 |
| CIS-1,3-DICHLOROPROPENE | 8260 | µg/kg | 5 | <6.8 |
| TRANS-1,3-DICHLOROPROPENE | 8260 | µg/kg | 5 | <6.8 |
| ETHYLBENZENE | 8260 | µg/kg | 5 | <6.8 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Drum 1A 01-03390-1 |
|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260 | µg/kg | 5 | <6.8 |
| 2-HEXANONE | 8260 | µg/kg | 50 | <68 |
| ISOPROPYLBENZENE (CUMENE) | 8260 | µg/kg | 5 | 4J |
| P-ISOPROPYLTOLUENE | 8260 | µg/kg | 5 | <6.8 |
| METHYLENE CHLORIDE | 8260 | µg/kg | 5 | <6.8 |
| 4-METHYL-2-PENTANONE (MIBK) | 8260 | µg/kg | 50 | <68 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260 | µg/kg | 5 | <6.8 |
| NAPHTHALENE | 8260 | µg/kg | 5 | <6.8 |
| N-PROPYLBENZENE | 8260 | µg/kg | 5 | <6.8 |
| STYRENE | 8260 | µg/kg | 5 | <6.8 |
| 1,1,1,2-TETRACHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,1,2,2-TETRACHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| TETRACHLOROETHENE | 8260 | µg/kg | 5 | <6.8 |
| TOLUENE | 8260 | µg/kg | 5 | 0.7J |
| 1,2,3-TRICHLOROBENZENE | 8260 | µg/kg | 5 | <6.8 |
| 1,2,4-TRICHLOROBENZENE | 8260 | µg/kg | 5 | <6.8 |
| 1,1,1-TRICHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,1,2-TRICHLOROETHANE | 8260 | µg/kg | 5 | <6.8 |
| TRICHLOROETHENE | 8260 | µg/kg | 5 | <6.8 |
| TRICHLOROFLUOROMETHANE | 8260 | µg/kg | 5 | <6.8 |
| 1,2,3-TRICHLOROPROPANE | 8260 | µg/kg | 5 | <6.8 |
| 1,2,4-TRIMETHYLBENZENE | 8260 | µg/kg | 5 | <6.8 |
| 1,3,5-TRIMETHYLBENZENE | 8260 | µg/kg | 5 | <6.8 |
| VINYL CHLORIDE | 8260 | µg/kg | 5 | <6.8 |
| XYLENE (TOTAL) | 8260 | µg/kg | 10 | <14 |

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

† All results are reported on dry basis for soil samples.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Result from Drum composite.

(b) Additional analysis requested on 05/16/01.

(c) MDL reported.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

# General Information

Project : Crows Landing

APCL Service ID: 01-3502

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Telephone (909)590-1828
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# Case Narrative

## Project: Crows Landing/800063

### For The IT Group

**APCL Service No: 01-3390**

## 1. Sample Identification

The sample identifications are listed in the following table:

| The IT Group Sample ID | APCL Sample ID |
|---|---|
| SI-01 | 01-03390-6 |
| Drum 1A | 01-03390-2 |
| Drum 1B | 01-03390-3 |
| Drum 1C | 01-03390-4 |
| Drum 1D | 01-03390-5 |
| Drum 1A | 01-03390-1 |

## 2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics ),
M8015V (Gasoline ),
M8015E (TPH: Diesel ),
M8015E (TPH: Motor Oil ),
6010 (TTLC 17 Metals ),
M8015V (JP-4 ),
ASTM-D2216 (Moisture, percent in soil ),
9040/150.1 (pH ),
8270 (Semi-VOC, 64 Compounds ),
8081 (Organochlorine pesticides ),
8082 (PCBs ),

## 3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

## 4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

## 5. Tele-log

None

## 6. Anomaly

(1) M8015V:

Gasoline recovery in the LCS was 128%, slightly higher than 75-125% control limit. Gasoline recovery in the LCSD was 98%, within control limit.

Surrogate BFB percent deviations in the CCV on 5/16/01 were 16-27%, higher than 15% control limit.

(2) SW7471:

MS/MSD recoveries, spiked on a foreign sample TL115, were outside of control limit due to an high level of mercury in the native sample.

(3) SW6010:

MS/MSD recoveries, spiked on a foreign sample TL1285, were outside of control limits due to matrix interference.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC Director
Applied P & Ch Laboratory

the IT group

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 562844
Page 1 of 1

800063

Project Name/No. 1 Crows Landing
Sample Team Members 2 RC
Profit Center No. 3
Project Manager 4 B Hulet
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 5/3/01
Lab Destination 8 APCL
Lab Contact 9 M Heckman
Project Contact/Phone 12 R Condit 288-2151
Carrier/Waybill No. 13 FedEx

Bill to: 5 IT-Concord

Report to: 10 IT-Concord
Rose Condit

**ONE CONTAINER PER LINE**

| Sample Number 14 | Sample Description/Type 15 | Date/Time Collected 16 | Container Type 17 | Sample Volume 18 | Pre-servative 19 | Requested Testing Program 20 | Condition on Receipt 21 | Disposal Record No. 22 |
|---|---|---|---|---|---|---|---|---|
| SI-01 | Surface impoundment | 5/3/01 1405 | A6 | 8oz | — | TPH-D + MO EPA 8270 CAM17 | Combine both Jars + Homogenize Before Analysis | |
| SI-01 | ↓ ↓ | ↓ 1405 | A6 | 8oz | — | EPA 8081 EPA 8082 | | |
| SI-01 | ↓ ↓ | ↓ 1405 | Encore | 5 | — | TPH-GAS/JF EPA 8260 | SAMPLES | |
| Drum 1 A | Composite into 1 sample soil waste from surface impoundment Area | 5/3/01 1500 | | 1-8oz | ↓ | EPA 8270 | RECEIVED IN | |
| Drum 1 B | | ↓ ↓ | | ↓ | ↓ | EPA 8081/8082 | GOOD CONDITION | |
| Drum 1 C | | | | | | CAM 17 | TEMP = 3.1°C | |
| Drum 1 D | | ↓ ↓ | | ↓ | ↓ | | | |
| Drum 1 A | | ↓ ↓ entire jars | 3 Encore | | — | EPA 8260B | 3390 | |

FOR LAB USE ONLY

Special Instructions: 23 SI-01 – Combine both 8oz + homogenize prior to Analysis

Possible Hazard Identification: 24
Non-hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: 25
Return to Client ☐ Disposal by Lab ☒ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ 5 PAY TAT

QC Level: 27
I. ☐ II. ☐ III. ☒ Project Specific (specify):

| | | | |
|---|---|---|---|
| 1. Relinquished by 28 (Signature/Affiliation) R Condit | Date: 5/3/01 Time: | 1. Received by 28 (Signature/Affiliation) FedEx | Date: Time: |
| 2. Relinquished by (Signature/Affiliation) FEDEX | Date: Time: | 2. Received by (Signature/Affiliation) Mark A. Heck | Date: 5/4/01 Time: 1000 |
| 3. Relinquished by (Signature/Affiliation) | Date: Time: | 3. Received by (Signature/Affiliation) | Date: Time: |

Comments: 29 Use entire 8oz Jar for SI01 Composite

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91