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CROWS LANDING
SSIC NO. 5090.3.A

# QUARTERLY BASEWIDE GROUNDWATER REPORT
## VERIFICATION SAMPLING AND ANALYSIS
## FIRST QUARTER - FALL 2000
## NASA CROWS LANDING FLIGHT FACILITY
## CROWS LANDING, CALIFORNIA

**Contract No. N62474-98-D-2076**
**Contract Task Order No. 0004**

**Document Control Number 1177**
**Revision 0**

**March 29, 2001**

Submitted to:

U.S. Department of the Navy
Southwest Division
Naval Facilities Engineering Command
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Issued to:_____ Date:_____

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# TRANSMITTAL

Date: 5 April 2001

From: Lynn Marie Hornecker LMH

To: Diane Silva
Code 01LS.DS

**Subj: CERCLA Administrative Record Materials**
NALF Crows Landing

***Installation***: Naval Auxiliary Landing Field, Crows Landing

***UIC Number***: N60211

***Document Title (or subject)***: Quarterly Basewide Groundwater Report Verification Sampling & Analysis First Quarter - Fall 2000

***Author***: IT Corporation

***Recipient***: James Barton, RWQCB

***Record Date***: 29 March 2001

***Approximate Number of Pages***: 250

***EPA Category***: 01.1

***Sites***: Site 17, UST Cluster 1, Site 11

***Key Words***: routine groundwater sampling

***Contract***: N62474-98-D-2076, ~~CTO 4~~

***CTO Number***: CTO 4

1 copy was submitted by IT Corp
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# Table of Contents


List of Figures ..... ii
List of Tables ..... ii
List of Appendices ..... ii
Acronyms and Abbreviations ..... iii

1.0 Introduction ..... 1-1
1.1 Organization of the Report ..... 1-1
1.2 Site Background and Hydrogeologic Setting ..... 1-2
1.3 Overview of Quarterly Monitoring Program ..... 1-3
2.0 Groundwater Monitoring Activities ..... 2-1
2.1 Summary of Previous Quarterly Monitoring Activities ..... 2-1
2.2 Current Quarterly Monitoring Activities ..... 2-1
2.2.1 Water Level Survey ..... 2-1
2.2.2 Basewide Water Level Monitoring ..... 2-1
2.2.3 Groundwater Sampling ..... 2-1
2.2.4 Supplemental Information ..... 2-3
2.2.5 Baseline Groundwater Sampling ..... 2-3
2.2.6 Field Observations ..... 2-3
2.3 Wastewater Disposal ..... 2-4
3.0 Current Quarterly Monitoring Results ..... 3-1
3.1 Groundwater Level Monitoring ..... 3-1
3.1.1 Groundwater Flow Direction and Gradient ..... 3-1
3.1.2 Basewide Water Level Monitoring Results ..... 3-1
3.2 Groundwater Analytical Results ..... 3-1
3.2.1 Petroleum Hydrocarbons ..... 3-2
3.3 Volatile Organic Compounds ..... 3-2
3.3.1 Metals ..... 3-3
3.3.2 General Groundwater Chemistry ..... 3-3
3.4 Data Quality Assessment ..... 3-3
3.4.1 Data Quality Indicators ..... 3-3
3.4.2 Level III Data Validation ..... 3-4
3.4.3 Sample Receipt, Temperature, and Holding Times ..... 3-5
3.4.4 Method Blanks ..... 3-5
3.4.5 Surrogate Standards ..... 3-5
3.4.5.1 EPA Method 8260B ..... 3-5
3.4.6 Calibrations ..... 3-6
3.4.6.1 EPA Method 8260B ..... 3-6
3.4.7 Internal Standards ..... 3-6
3.4.8 Laboratory Control Samples ..... 3-7
3.4.9 Interference Check Sample and Serial Dilutions ..... 3-7
3.4.10 Matrix Spikes and Matrix Spike Duplicates ..... 3-7
3.4.11 Analytical Anomalies ..... 3-7

## Table of Contents (continued)


3.4.12 Field Duplicates ..... 3-8
3.5 Chemical Data Quality and Usability ..... 3-8
4.0 Monitoring Plan and Recommendations ..... 4-1
5.0 References ..... 5-1


## List of Figures


Figure 1 Facility Location Map
Figure 2 Well Location Map, Quarterly Basewide Groundwater Verification and Analysis
Figure 3 Water Table Elevation Map, November 2000
Figure 4 Concentrations of Petroleum Hydrocarbons in Groundwater, November 2000
Figure 5 Concentrations of Organic Solvents in Groundwater, November 2000
Figure 6 Concentrations of Chromium in Groundwater, November 2000


## List of Tables


Table 1 Basewide Groundwater Verification Sampling Wells
Table 2 Water Level Survey Data
Table 3 Basewide Groundwater Certification


## List of Appendices


Appendix A Groundwater Monitoring Data Forms and Sample Collection Logs
Appendix B Laboratory Analytical Results, Certificates of Analysis, and Chains of Custody
Appendix C Basewide Water Level Monitoring Results
Appendix D Supplemental Information: Previous Groundwater Analytical Results

## Acronyms and Abbreviations

| | |
|---|---|
| APCL | Applied Physics and Chemistry Laboratory |
| APPL | Agriculture and Priority Pollutant Laboratory |
| bgs | below ground surface |
| BTEX | Benzene, toluene, ethyl-benzene, and total xylenes |
| CAM 17 | California assessment manual metals |
| EDB | ethylene dibromide |
| EPA | United States Environmental Protection Agency |
| Facility | NASA Crows Landing Flight Facility |
| ft | feet |
| ICP | inductively coupled plasma |
| ICS | interference check sample |
| IRP | Installation Restoration Program |
| IT | IT Corporation |
| J | estimated concentration |
| JP-4 | jet fuel grade 4 |
| LDC | Laboratory Data Consultants |
| LCS | Laboratory control spikes |
| LCD | laboratory control spike duplicates |
| µg/L | micrograms/Liter |
| MEK | 2-butanone |
| MS | Matrix spikes matrix spike duplicates |
| MSD | matrix spike duplicates |
| MTBE | methyl-tert-butyl-ether |
| NASA | National Aeronautics Space Administration |
| NFESC | Naval Facilities Engineering Services Center |
| QAPP | Quality Assurance Project Plan |
| QC | Quality Control |
| RPD | Relative Percent Difference |
| SAP | Sampling and Analysis Plan |
| SDG | sample delivery group |
| SVE | Soil Vapor Extraction |
| TDS | Total dissolved solids |
| TPH | total petroleum hydrocarbons |
| TtEMI | Tetra Tech Environmental Management, Inc. |
| U | not detected |
| USACE | United States Army Corps of Engineers |

## *Acronyms and Abbreviations (continued)*

| | |
|---|---|
| UST | underground storage tank |
| VOC | volatile organic compound |
| Work Plan | Soil Vapor Extraction Optimization for the Remediation of UST |
| %D | percent difference |
| %RDS | percent relative standard deviation |

# 1.0 Introduction

This report has been prepared by IT Corporation (IT) to describe quarterly basewide groundwater verification sampling and analysis that is being performed at the National Aeronautic Space Administration (NASA) Crows Landing Flight Facility (Facility) in Crows Landing, California. These activities supplement field activities performed under the *Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification Activities at Various Sites, Revision 2* (Work Plan) (IT, 2001a).

The groundwater verification sampling and analysis (groundwater monitoring) program at the Facility consists of collecting groundwater samples from the selected wells within the facility property once every three months for a minimum period of one year. Basewide water level monitoring is also being conducted to verify groundwater flow conditions. Water level measurements are recorded manually during sampling events and by electronic water level data loggers in selected wells. Review of analytical results and groundwater flow conditions will be used to verify the concentrations of metals, petroleum hydrocarbons, volatile organic compounds (VOCs), and general groundwater water chemistry. Following the fourth quarterly event, the frequency of subsequent monitoring will be evaluated based on the available results.

## 1.1 Organization of the Report

This report is organized into five sections as follows:

- Section 1.0 - Introduction: Presents the general approach, the site background and hydrogeologic setting, and an overview of the groundwater monitoring program.
- Section 2.0 - Groundwater Monitoring Activities: Presents a summary of previous and current activities. Includes a description of water level surveying, groundwater sampling activities, and supplemental information.
- Section 3.0 - Groundwater Monitoring Results: Presents a summary of groundwater flow conditions and analytical results, as well as results of related activities and additional recent information.
- Section 4.0 – Monitoring Plan / Recommendations: Present information on the next sampling event and any recommendations for future monitoring or remediation activities at the Facility.
- Section 5.0 - References.

## 1.2 Site Background and Hydrogeologic Setting

The Facility is located in Stanislaus County, California, approximately 80 miles southeast of San Francisco. It covers roughly 1,500 acres of the northwestern San Joaquin Valley between the towns of Patterson and Crows Landing and contains two runways and several support structures (Figure 1). The Facility has been in operation since 1943, and has served as an Army, Navy, Air Force, and Coast Guard training facility as well as a NASA research and development site.

Environmental investigations to determine impacts to soil and groundwater from Facility activities began in 1987. As part of the investigation activities, monitoring wells have been installed at selected locations where groundwater has been impacted. The impacted sites include Underground Storage Tank (UST) Cluster 1, UST Cluster 2, UST 109, UST 117, and Installation Restoration Program (IRP) Sites 11 and 17. To evaluate background conditions, monitoring wells have also been installed at sites were groundwater impact is not suspected. The locations of the impacted sites and the background-monitoring wells are shown on Figure 2.

The San Joaquin Valley overlies approximately two-thirds of the Central Valley Aquifer System; a single heterogeneous aquifer that contains water under unconfined conditions in the upper few hundred feet and grades to confined conditions with depth (Planert and Williams, 1995). At most locations the Central Valley Aquifer System is composed of more than 50 percent fine-grained material. The largest and most continuous fine-grained unit is the Corcoran Clay Member of the Tulare Formation, which underlies much of the western San Joaquin Valley.

The Facility is located along the western edge of the San Joaquin Valley, approximately 1 mile west of the San Joaquin Fault and the adjacent Coast Ranges (Chapman and others, 1999). Surficial alluvial deposits at the site consist of unconsolidated sand, silt, gravel, and clay that originated in the Coast Ranges and were deposited by Little Salado Creek during the Pleistocene (Higgins and Dupras, 1993). The Corcoran Clay is thought to be approximately 200-230 feet (ft) below ground surface (bgs) and approximately 40-110 ft thick at the Facility location (Hotchkiss, 1972; Page, 1986).

Shallow groundwater in the northwestern San Joaquin Valley generally conforms to topography and flows from the Coast Ranges toward the San Joaquin River at an approximate gradient of 5 to 25 ft per mile (Phillips and others, 1991). Depth to groundwater varies seasonally, but is approximately 80 ft bgs in the southwest portion of the Facility and 40 ft bgs in the northwest portion of the Facility (See Section 3.1). Monitoring wells at the facility have been installed in four designated depth zones as follows:

- Shallow zone - screened interval at or near the water table
- Mid-shallow zone - screened interval approximately 50 feet below the water table
- Mid-deep zone - screened interval approximately 125 feet below the water table
- Deep zone - screened interval approximately 200 feet below the water table

Recent review of historic reports indicates that some of the deep zone monitoring wells may be screened in or below the Corcoran Clay (Hotchkiss, 1972; Page, 1986).

## 1.3 Overview of Quarterly Monitoring Program

Previous groundwater samples had been collected periodically from 1994 through 1998 and had been analyzed for the chemicals of concern based on former uses of specific sites. The results of the previous basewide groundwater sampling can be found in the annual groundwater monitoring reports (Tetra Tech EM Inc. [TtEMI] 1996, 1997, and 1998). Since March 1998, additional wells have been installed at selected sites, and samples have been collected as part of site-specific remediation technology pilot testing and site remediation activities.

The current quarterly basewide groundwater monitoring program consists of collecting groundwater samples every three months and gathering groundwater level data. Monitoring wells selected for the sampling program are listed in Table 1. The quarterly program will continue for a minimum period of one year (four quarters). Following the fourth quarterly event, the frequency of subsequent monitoring will be evaluated based on the available results and discussions with the regulatory agencies. Results will be used to verify the lateral and vertical distribution of selected metals, petroleum hydrocarbons, and VOC concentrations in groundwater at the Facility. The first quarterly sampling event (Fall 2000) was conducted in November 2000.

# 2.0 Groundwater Monitoring Activities

This section presents a brief summary of field methods and activities associated with groundwater monitoring and a summary of relevant previous or concurrent activities at the Facility.

## 2.1 Summary of Previous Quarterly Monitoring Activities

Quarterly groundwater monitoring was previously conducted from 1994 to 1998 (TtEMI, 1998). The monitoring program included Site 11, Site 17, UST Cluster 1, UST Cluster 2, UST 109, and UST 117. At least nine sets of quarterly groundwater samples were collected from these sites (TtEMI, 1998). A summary table of previous analytical results is included in Appendix D.

## 2.2 Current Quarterly Monitoring Activities

Current monitoring activities consist of a groundwater level survey, basewide water level monitoring, and collection of groundwater samples for chemical analysis.

### 2.2.1 Water Level Survey

Water level measurements are taken prior to sample collection at each well. In November 2000, water levels were not measured in CL2-MP-01 and 117-MW-10S, because CL2-MP-01 was dry and 117-MW-10S was misidentified during sampling.

### 2.2.2 Basewide Water Level Monitoring

From late August through early December 2000, initial basewide water level monitoring was performed at four shallow groundwater monitoring wells located in UST Cluster 1, UST Cluster 2, and IRP Site 11. Electronic pressure transducers were set in shallow monitoring wells: CL2-MW-05, CL2-MP-03B, CL1-MW-10S, and 11-MW-04. Water levels were acquired every 15 minutes during the initial tests. Changes in water levels were graphed and are presented in Appendix C.

In December 2000, four pressure transducers were set in shallow wells: CL1-MW-10S, 117-MW-05, CL2-MP-03B, and 11-MW-03. Long-term basewide water level monitoring results from these four wells will be presented in the Winter 2001 quarterly report.

### 2.2.3 Groundwater Sampling

Groundwater samples were collected from the monitoring wells listed on Table 1 between November 6 and November 9, 2000. A sample could not be collected from monitoring well

CL2-MP-01A, which was dry. The sample to be collected from 11-MW-10S was inadvertently collected from the collocated Well 11-MW-10MS. The well cluster was not clearly labeled at the time of sampling; however, the well casings in this cluster are now clearly labeled.

Sampling was performed by IT personnel according to the approved Sampling and Analysis Plan (SAP) (IT, 2001b). All wells were sampled using 2-inch submersible Grundfos pumps and micro-purging techniques. The pump intake was set at the well screen midpoint and operated at a low-flow pumping rate of approximately 250 to 500 milliliters per minute (ml/min). Dedicated, clean tubing was used for purging and sample collection from each well. Samples for metals analysis (EPA 6010B/7000) were filtered using in-line 0.45 micron (μm) disposable filters.

Water quality parameters (pH, conductivity, temperature, dissolved oxygen and turbidity) were measured every five to ten minutes while purging, and were recorded on the Groundwater Monitoring Data Forms provided in Appendix A. After pH, conductivity, temperature and dissolved oxygen stabilized within the specified criteria, samples were collected. Samples were collected from the discharge of the pump directly into sample containers provided by the laboratory and were analyzed for the following parameters:

- Volatile organic compounds (VOCs) including methyl-tert-butyl-ether (MTBE) and ethylene dibromide (EDB) by EPA Method 8260B
- Total petroleum hydrocarbons (TPH) as gasoline and jet fuel grade 4 (JP-4) by EPA Method 8015B
- TPH as diesel and motor oil by EPA Method 8015B
- California assessment manual metals (CAM 17) by EPA Method 6010B/7000
- Hexavalent chromium by EPA Method 7196
- Alkalinity by EPA Method 310.1
- Anions (chloride, nitrate, nitrite, sulfate and phosphate) by EPA Method 9056
- Total dissolved solids (TDS) by EPA Method 160.1

Quarterly groundwater samples were sent to Applied Physics and Chemistry Laboratory (APCL) in Chino, California for all analysis except hexavalent chromium. APCL is a California-certified laboratory that has successfully completed a Naval Facilities Engineering Services Center (NFESC) assessment process.

Because the hexavalent chromium analysis has a maximum 24-hour holding time, a local laboratory was needed to meet this requirement. Agriculture and Priority Pollutant Laboratory (APPL) in Fresno, California performed the hexavalent chromium analysis. APPL is a California-certified laboratory that has not been through the NFESC assessment process. However, the laboratory is United States Army Corps of Engineer (USACE) validated.

### 2.2.4 Supplemental Information

Additional field activities and observations are discussed below.

### 2.2.5 Baseline Groundwater Sampling

Seven groundwater monitoring wells were sampled in July 2000 as part of the UST Cluster 1 pilot testing baseline information. The sampled wells are listed below.

| Well Designation | Top of Casing Elevation (ft above mean sea level) | Total Depth of Well (ft below top of casing) |
|---|---|---|
| CL1-MW-05 | 142.92 | 73.6 |
| 117-MW-01 | 142.76 | 74.1 |
| CL1-MW-10(S) | 145.88 | 71.1 |
| CL1-MW-12(S) | 146.75 | 69.9 |
| 17-MW-12 | 143.92 | 74.0 |
| 117-MW-03 | 141.74 | 108.1 |
| 17-MW-03 | 142.09 | 108.1 |

Data from this sampling event will be presented in the UST Cluster 1 Soil Vapor Extraction (SVE) Pilot Study Report. Laboratory analytical results are included in Appendix B.

### 2.2.6 Field Observations

Groundwater sampling using micro-purging techniques is intended to provide the most representative sample of the formation water without disturbing sediments in the well. However, this type of sampling requires that the well have sufficient recovery rate to support the pumping rate. The water column should not drop more than 0.2 ft during purging. Several of the wells at the Facility did not have sufficient recovery rates to support even the lowest flow rate of 250 ml/minute. Monitoring Wells, 109-MW-01, BG-MW-02, 11-MW-06 and MW117-4, all went dry during purging. In these cases, the well was allowed to recharge and samples were collected.

For optimal micro purging techniques, pumps should be installed 24 hours prior to purging to avoid disturbance of the water column in the well casing. Because this procedure was not performed during this sampling event, turbidity readings were collected but not used as a criterion for well stabilization. High turbidity was observed in many of the wells.

Deep monitoring Well 17-MW-15 contained large quantities of particulate matter, which clogged the pump intake during purging. The purge water had anomalous high pH readings (approximately 11). The boring log for this well indicates that the 10-ft-long screen is set entirely in clay that underlies 20 feet of sand and gravel. It is likely that grout has infiltrated the filterpack, and compromised the integrity if this well. This 270-ft-deep well is located at Site 17, near the sparging pilot test site. Alternatively, the grayish-white particulate matter could be caused by precipitation of iron oxides and sulfate compounds caused by the aeration of groundwater near the well.

After collection of the groundwater sample from background monitoring Well BG-MW-02, the submersible Grundfos pump became lodged within the screened interval. Attempts to free the pump were unsuccessful, and it is believed that the pump may be wedged at a damaged section of the screen.

## 2.3 Wastewater Disposal

All purged groundwater was temporarily stored in mobile tanks mounted on the sampling trucks during field activities. This purge water was combined with other Facility liquid waste streams in storage tanks located at the UST Cluster 1 site for proper disposal.

# 3.0 Current Quarterly Monitoring Results

The results of groundwater level measurements and chemical analysis of groundwater samples are presented and discussed in this section.

## 3.1 Groundwater Level Monitoring

Groundwater elevations have been calculated and are presented in Table 2. Monitoring well screen elevations are also presented in Table 2. A groundwater elevation could not be calculated for Well CL-MP-01, because it was dry.

### 3.1.1 Groundwater Flow Direction and Gradient

Water level measurements recorded prior to sample collection at 13 shallow wells were used to contour the water table elevation at the Facility (Figure 3). The water table in November 2000 was within the screened zone of all these wells, except BG-MW-01; the top of the screen in BG-MW-01 was approximately 7 ft below the water table (Table 2). The bottom of these well screens are all less than 30 ft below the water table. The calculated groundwater elevation for shallow Well CL2-MP-01 (82.12) was not contoured because there appears to be an error in the top of casing elevation relative to other nearby wells at UST Cluster 2.

The water table contour map (Figure 3) generally conforms to surface topography (Figure 1) but at a lesser gradient. The shallow groundwater gradient flows to the northeast, toward the San Joaquin River. The pattern of water table contour lines shown on Figure 3 are in close agreement with the regional pattern (between Patterson and Crows Landing) shown by Phillips and others (1991) for Spring 1987.

### 3.1.2 Basewide Water Level Monitoring Results

The initial basewide water level monitoring results show an apparent seasonal decline in groundwater levels (Appendix C). This decline is expected during the dry Fall season in the San Joaquin Valley. These initial data logger tests were run for relatively short durations and water level declines are all less than 1 ft.

The basewide water level monitoring results in the next quarterly report will include hourly water level elevations recorded at four shallow monitoring wells.

## 3.2 Groundwater Analytical Results

Groundwater analytical results are summarized in Table 3.

### 3.2.1 Petroleum Hydrocarbons

The results of analysis for benzene, ethylbenzene, toluene, and total xylenes (BETX), 1,2-dibromoethane (EDB), and TPH are shown on Figure 4. Significant concentrations of petroleum hydrocarbons were detected in groundwater samples from wells in the UST Cluster 1 area (CL1-MW-02 and CL1-MW-13). Benzene was detected at 3070 µg/L in the groundwater sample from CL1-MW-02. Results of previous groundwater sampling and analysis have indicated that the petroleum hydrocarbons detected at UST Cluster 1 resembled jet fuel (JP-4) (TtEMI 1998). Results from this quarterly sampling event indicate that, although the chromatograms do not match the gasoline standard, the petroleum hydrocarbons are in the gasoline range and resemble degraded gasoline or aviation gasoline. The presence of BTEX and 1,2-dichloroethane in samples from UST Cluster 1, and the presence of EDB in a sample collected from Well CL1-MW-12 during the baseline groundwater sampling conducted in July 2000 also provide evidence that the petroleum hydrocarbons are likely gasoline or aviation gasoline.

At UST Site 117, benzene was detected at an estimated concentration of 1.9 µg/L and gasoline range petroleum hydrocarbons were detected at 0.08 mg/L in the groundwater sample from Well 117-MW-10 (MS). Significant concentrations of petroleum hydrocarbons were not detected in samples from the other sites and background wells.

Several of the samples collected for analysis for extractable petroleum hydrocarbons (diesel and motor oil) contained detectable concentrations of discrete compounds. The analytical data indicate that the compounds detected were not petroleum hydrocarbons. The results are discussed in Section 3.3.11.

## 3.3 Volatile Organic Compounds

Groundwater samples were analyzed for VOCs by EPA Method 8260B; results are presented in Table 3. Concentrations of selected chlorinated and non-chlorinated solvents are shown on Figure 5.

Samples collected from UST Cluster 1 and IRP Site 17 contained detectable concentrations of non-chlorinated solvents that were not previously reported. The groundwater sample from Well CL1-MW-02 contained an estimated concentration of 6640 µg/L of acetone and a concentration of 400 µg/L of 2-butanone (MEK). The results from baseline sampling conducted in July 2000 also indicate detectable concentrations of non-chlorinated solvents at UST Cluster 1 and Site 17. The probable source, nature, and extent of non-chlorinated solvents at the Facility have not been evaluated in previous sampling events.

The current results from the analysis of petroleum hydrocarbons and VOCs in samples from UST Cluster 1 and Site 17 indicate that the two plumes are co-mingled to a larger extent than previously reported. Considering the presence of non-chlorinated solvents at UST Cluster 1 and the co-mingled plumes, managing groundwater contamination at Site 17, UST Cluster 1, and UST 117 will be conducted concurrently as the Administration Area plume.

### 3.3.1 Metals

Groundwater samples were analyzed for metals by EPA Method 6010B/7000 and for hexavalent chromium by EPA Method 7196. Results of all detected metals are presented in Table 3. Concentrations of chromium and hexavalent chromium are shown on Figure 6.

The detected concentrations of chromium (by EPA Method 6010B/7000) range from an estimated 0.4 μg/L in the groundwater sample from well 17-MW-15 to the maximum detected concentration of 23.6 μg/L in the groundwater sample from well 17-MW-08. Chromium concentrations in shallow groundwater throughout the western San Joaquin Valley have been shown to range from not detected to 170 μg/L with a medium value of 10 μg/L (Deverel and others, 1984).

### 3.3.2 General Groundwater Chemistry

Groundwater sample were analyzed for alkalinity by EPA Method 310.1, total dissolved solids by EPA Method 160.1, and selected anions by EPA Method 9056. The results for the general chemistry analysis are included in Table 3. Interpretation of the results as they relate to concentrations of other compounds at each site will be evaluated and discussed in the annual groundwater monitoring report.

## 3.4 Data Quality Assessment

Twenty-one (21) primary and three field duplicate groundwater samples were collected November 7 through November 9, 2000, and were sent to APCL and APPL for analysis.

### 3.4.1 Data Quality Indicators

Analytical data for this project were assessed in terms of precision, accuracy, representativeness and comparability, based on the requirements of the analytical methods and the *Sampling and Analysis Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification Activities at Various Sites, Revision 2* (IT, 2001a).

The analytical data were reported in two sample delivery groups (SDGs) from APCL and three SDGs from APPL, (shown below) and were validated at EPA Level III. The findings of the data validation process are summarized in this section.

| APCL SDG: 00-5644 | APCL SDG: 00-5616 | APPL SDG: 33956 | APPL SDG: 33944 | APPL SDG: 33973 |
|---|---|---|---|---|
| 11-MW-06 | CL-99-1 | 17-MW-16 | BG-MW-01 | 11-MW-04 |
| 117-MW-10S | 17-MW-02 | 117-MW-10(MD) | CL2-MW-05 | 11-MW-06 |
| CL1-MW-02 | 17-MW-08 | 109-MW-01 | CL-99-1 | 117-MW-10S |
| CL1-MW-04 | 17-MW-16 | 117-MW-12 | CL2-MW-01B | CL1-MW-02 |
| CL1-MW-13 | 117-MW-10(MD) | BG-MW-02 | 17-MW-15 | CL1-MW-04 |
| CL1-MW-09(MS) | 109-MW-01 | BG-MW-03 | | CL1-MW-13 |
| CL2-MW-04 | 117-MW-12 | CL99-03 | | CL1-MW-09(MS) |
| CL-99-02 | BG-MW-01 | 17-MW-08 | | CL2-MW-04 |
| MW-117-4 | BG-MW-03 | 17-MW-02 | | CL-99-02 |
| | CL2-MW-05 | | | |
| | CL2-MW-01B | | | |
| | CL99-03 | | | |
| | 17-MW-15 | | | |
| Trip blank (11/9) | Trip Blank (11/7 & 11/8) | | | MW-117-4 |

### 3.4.2 *Level III Data Validation*

The following laboratory quality control (QC) parameters were evaluated during Level III validation process:

- Sample receipt, preservation and holding times – representativeness
- Method blanks
- Surrogate standard recoveries (accuracy)
- Calibrations (initial and continuing)
- Internal standards (EPA Method 8260B only)
- Laboratory control spikes (LCSs)/laboratory control spike duplicates (LCDs)-(precision and accuracy)
- Interference check sample and serial dilutions (EPA Method 6010B/7000 only)

- Matrix spikes (MSs)/matrix spike duplicates (MSDs) (precision and accuracy).

### 3.4.3 Sample Receipt, Temperature, and Holding Times

All sample shipments were received at the laboratory within the EPA-specified temperature range of 2 to 6°C. Sample preservation was according to the EPA method requirements. All holding times were met for all analyses.

### 3.4.4 Method Blanks

A method blank is a matrix equivalent sample (i.e., water or soil) used to check reagent or process introduced contamination during the method preparation and analysis. The method blanks did not contain any analytes of interest at or above the method reporting for all analyses, with one exception.

Methylene chloride, a common laboratory contaminant, was detected in laboratory method blanks, trip blanks, and most of the project samples at low concentrations. If the concentration of methylene chloride detected in the samples were less than 5 times the highest associated blank concentration, then results were reported as not detected at the reported concentrations and flagged with a U-qualifier. Methylene chloride results were changed to "not detected" (U) for samples: CL-99-1, 17-MW-02, 17-MW-08, 17-MW-16, 117-MW-10 (MD), 109-MW-01, 117-MW-12, BG-MW-01, BG-MW-02, BG-MW-03, CL2-MW-05, CL2-MW-01B, CL99-03, 17-MW-15, trip blanks for 11/7 and 11/8.

- Although methylene chloride was not detected in the method blanks or trip blanks for SDG 00-5644, it was detected in all of the project samples at low consistent concentrations. These methylene chloride detections are indicative of laboratory contamination and should be viewed as such. However, the blank results do not support changing the data to "not detected."

### 3.4.5 Surrogate Standards

Surrogate standards are added prior to extraction and analysis for EPA Methods 8260B and 8015B to monitor the efficiency of the extraction and the accuracy of the analysis for each sample. All of the surrogate spike recoveries were within the laboratory specified control limits for all samples with the following exceptions:

#### 3.4.5.1 EPA Method 8260B

Surrogate standards, toluene-d8 and bromofluorobenzene, were recovered above the upper control limit in samples, 11-MW-04, CL1-MW-4, 117-MW-105, CL1-MW-13, BG-MW-03, trip blank (11/8 and 11/9) and 17-MW-02. The detected volatile analytes in these samples were qualified as estimated concentration (J) due to this anomaly. Data usability was not affected.

Surrogate standards, toluene-d8 and bromofluorobenzene, were recovered below the lower control limit in samples CL99-01 and CL-99-03. All volatile analytes in these samples were qualified as estimated concentration (J/UJ) due to this anomaly. Data usability was not affected.

### 3.4.6 Calibrations

The requirements for initial and continuing calibrations were met for all analyses, with the following exceptions.

#### 3.4.6.1 EPA Method 8260B

The percent relative standard deviation (%RDS) for acetone and 2-hexanone exceeded the method specified criteria in the initial calibration dated 10/6/00. All samples in SDG 00-5616 and 00-5644 were qualified as estimated concentrations (J/UJ) for these two analytes. Data usability was not affected.

The percent difference for dichlorodifluoromethane, 2-hexanone and 1,2,4-trichlorobenzene were above the method specified criteria in the continuing calibration standard on 11/12/00. All sample results in SDG 00-5616 were qualified as estimated concentrations (J/UJ) for these three analytes. Data usability was not affected.

The percent difference for acetone was above the method specified criteria in the continuing calibration standard on 11/13/00 for SDG-00-5644. All sample results in this SDG were previously qualified as estimated concentrations (J/UJ) for this analyte due to an initial calibration deficiency. Data usability was not affected.

The percent difference for p-isopropyltoluene, n-butylbenzene, 1,2,4-trichlorobenzene, naphthalene and 1,2,3-trichlorobenzene were above the method specified criteria in the continuing calibration standard on 11/15/00 for SDG 00-5644. Results for samples, 11-MW-04, CL1-MW-4 and MW-117-4, were qualified as estimated concentrations (J/UJ) for these analytes. Data usability was not affected.

### 3.4.7 Internal Standards

Internal standards are usually synthetic compounds, which are similar in chemical behavior to the target analytes. They are added to samples at the time of instrument analysis and are used to quantify results through internal standard calibration procedures. Internal standard recoveries are used to correct for injection and detector variability. All internal standard areas and retention times for EPA Method 8260B were within the method specified criteria.

### 3.4.8 Laboratory Control Samples

Laboratory control samples are blank matrix equivalent spiked samples that are carried through the entire method preparation and analysis. They are used to evaluate the accuracy and precision of the preparation and analysis without matrix interference. LCSs are prepared with each batch of samples for every analysis. All the LCS recoveries were within the specified control limits for all analyses.

### 3.4.9 Interference Check Sample and Serial Dilutions

The interference check sample (ICS) is used to measure the interelement interference for inductively coupled plasma (ICP) analysis (EPA Method 6010B). It measures the positive or negative bias of the instrument based on high concentrations of known interfering elements. The serial dilution is use to measure matrix interference which causes instrument signal suppression. All ICS and serial dilutions met the method specified acceptance criteria.

### 3.4.10 Matrix Spikes and Matrix Spike Duplicates

MSs and MSDs are representative matrix samples spiked with known concentrations of analytes and carried through the entire method preparation and analysis. They are used to evaluate any bias introduced to the method due to matrix interferences, and to measure accuracy (percent recovery) and precision using Relative Percent Difference (RPD) of recoveries for each analytical batch. Site specific groundwater samples, from monitoring wells CL2-MW-04 and 109-MW-01, were submitted to the laboratory for MS/MSD use. All percent recoveries and RPDs were within the specified control limits for all analyses.

### 3.4.11 Analytical Anomalies

Analytical anomalies were noted by APCL during the TPH diesel and TPH motor oil analyses. Miscellaneous peaks in the diesel carbon range of $C_{12}$ to $C_{16}$ were present in all of the sample chromatograms at varying concentrations. Characteristic diesel hydrocarbon patterns were not observed in the samples.

APCL performed mass spectral analysis of the sample extract showing the highest concentrations of miscellaneous peaks, 17-MW-15. The three largest miscellaneous peaks were identified as α,α-dimethyl benzenemethanol, acetophenone, and 2-ethyl-1-hexanol. These compounds are all oxygenated hydrocarbons, and their origin is unknown.

Since these are non-target analytes and their origins are unknown, additional analytical procedures will be implemented for future sampling events to minimize their impact to the 8015B analysis. Silica gel cleanup procedure (EPA Method 3630C) is a common cleanup

method for TPH analysis is now being used to remove polar non-petroleum based interference from all samples collected for extractable TPH analysis.

### 3.4.12 Field Duplicates

Three field duplicates were collected and analyzed during this sampling event. The field duplicate results are summarized in Appendix B and indicate acceptable sampling and analytical precision.

## 3.5 Chemical Data Quality and Usability

In summary, all of the QC data are indicative of acceptable analytical method performance. The anomalies mentioned above do not invalidate the data for its intended use. All of the data are valid and usable. Copies of analytical data reports are provided in Appendix B.

# 4.0 Monitoring Plan and Recommendations

The second quarterly sampling event (Winter 2001) was conducted in February 2001. To verify the Fall 2000 results, the same monitoring plan was followed during the Winter 2001 sampling event. In the future, the wells selected for the monitoring program may be changed or increased to better verify the nature and extent of impacted groundwater at the Facility. Basewide water level monitoring was expanded in February 2000 to included hourly water level measurements in a total of eight monitoring wells.

# 5.0 References


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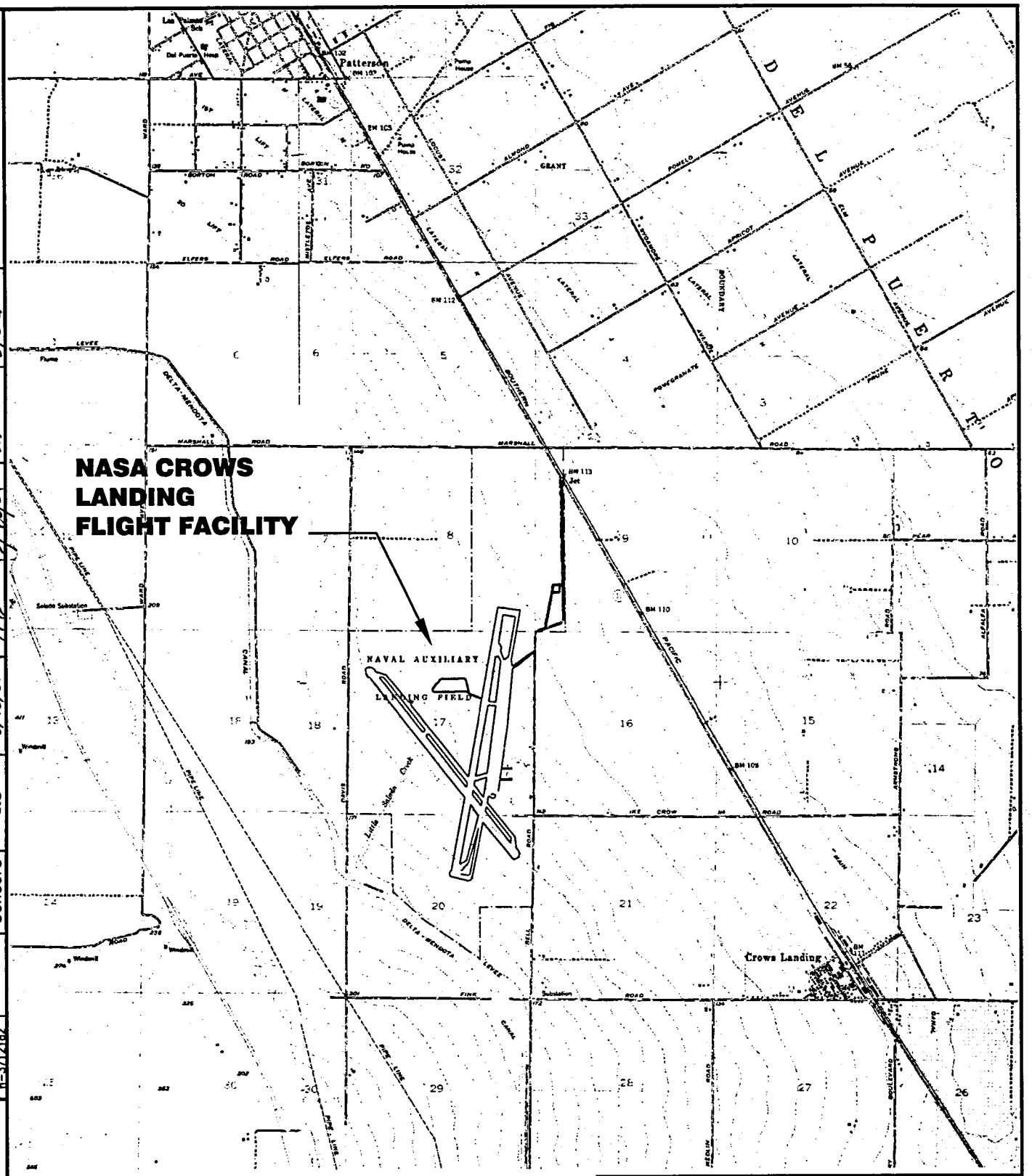
Tetra Tech EM Inc., 1996, *Final First Annual Groundwater Monitoring Report* (June 1994 Through March 1995), San Francisco, California.

# FIGURES

| DRAWING NUMBER | APPROVED BY | CHECKED BY | DRAWN BY | OFFICE | X-REF | IMAGE |
|---|---|---|---|---|---|---|
| 800063-A8 | BH 3/28/01 | TFB 3/26/01 | SJZ 3/13/01 | Concord | | h-3712f01 h-3712f02 |




SCALE

0 4000 8000 FEET

REFERENCE: 7.5' USGS TOPOGRAPHIC QUADRANGLES OF: PATTERSON, CA. PHOTOREVISED 1971, PHOTOINSPECTED 1978; CROWS LANDING, PHOTOREVISED 1980. ORIGINAL SCALE 1:24,000.

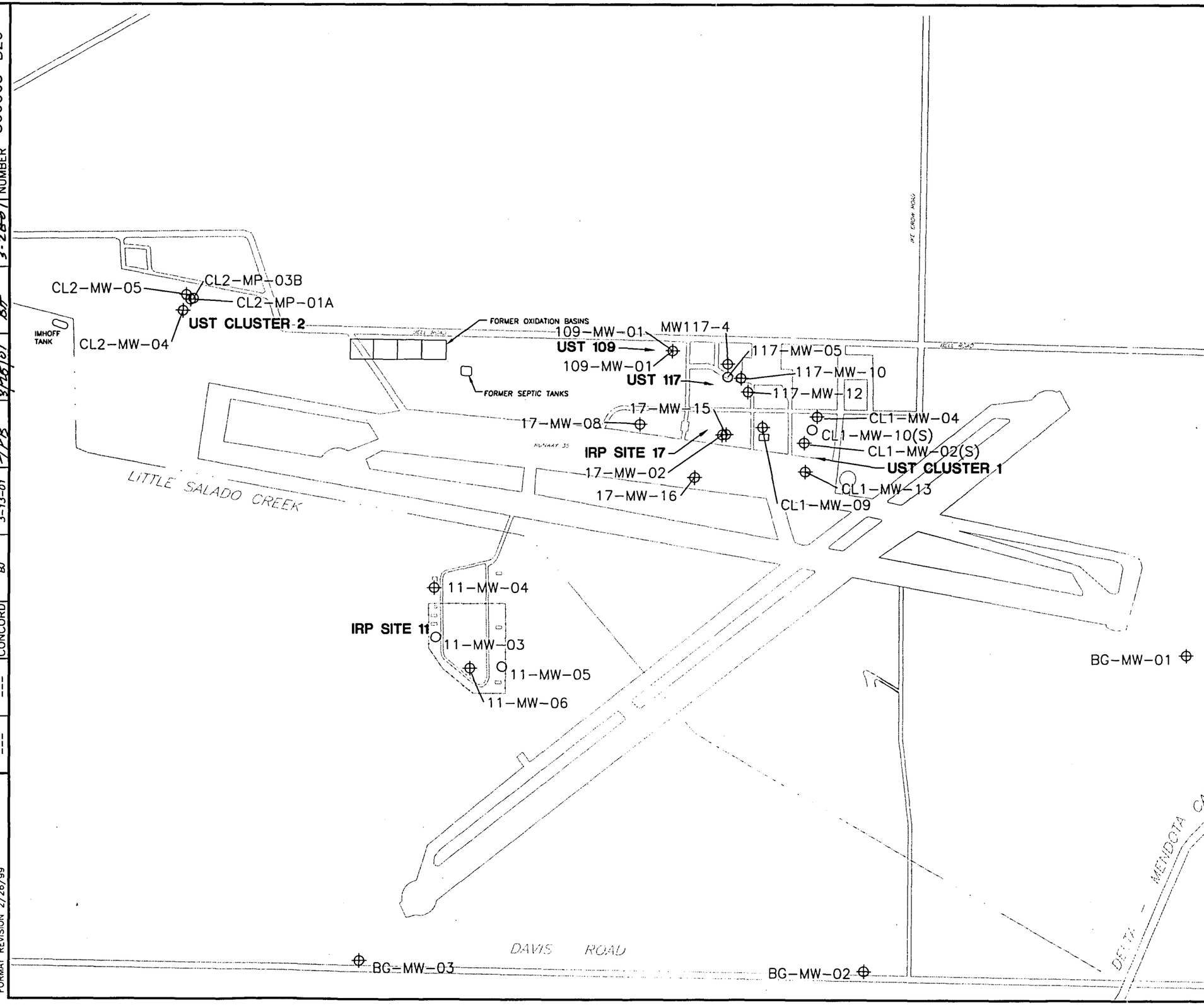
IT CORPORATION

NASA
CROWS LANDING FLIGHT FACILITY
CROWS LANDING, CALIFORNIA

FIGURE 1

FACILITY LOCATION MAP

QUARTERLY BASEWIDE GROUNDWATER VERIFICATION SAMPLING AND ANALYSIS




## LEGEND

- ⊕ MONITORING WELL LOCATIONS
- ○ MONITORING WELLS INCLUDED IN BASEWIDE WATER LEVEL MONITORING

400 0 400 800

SCALE: 1"=800'

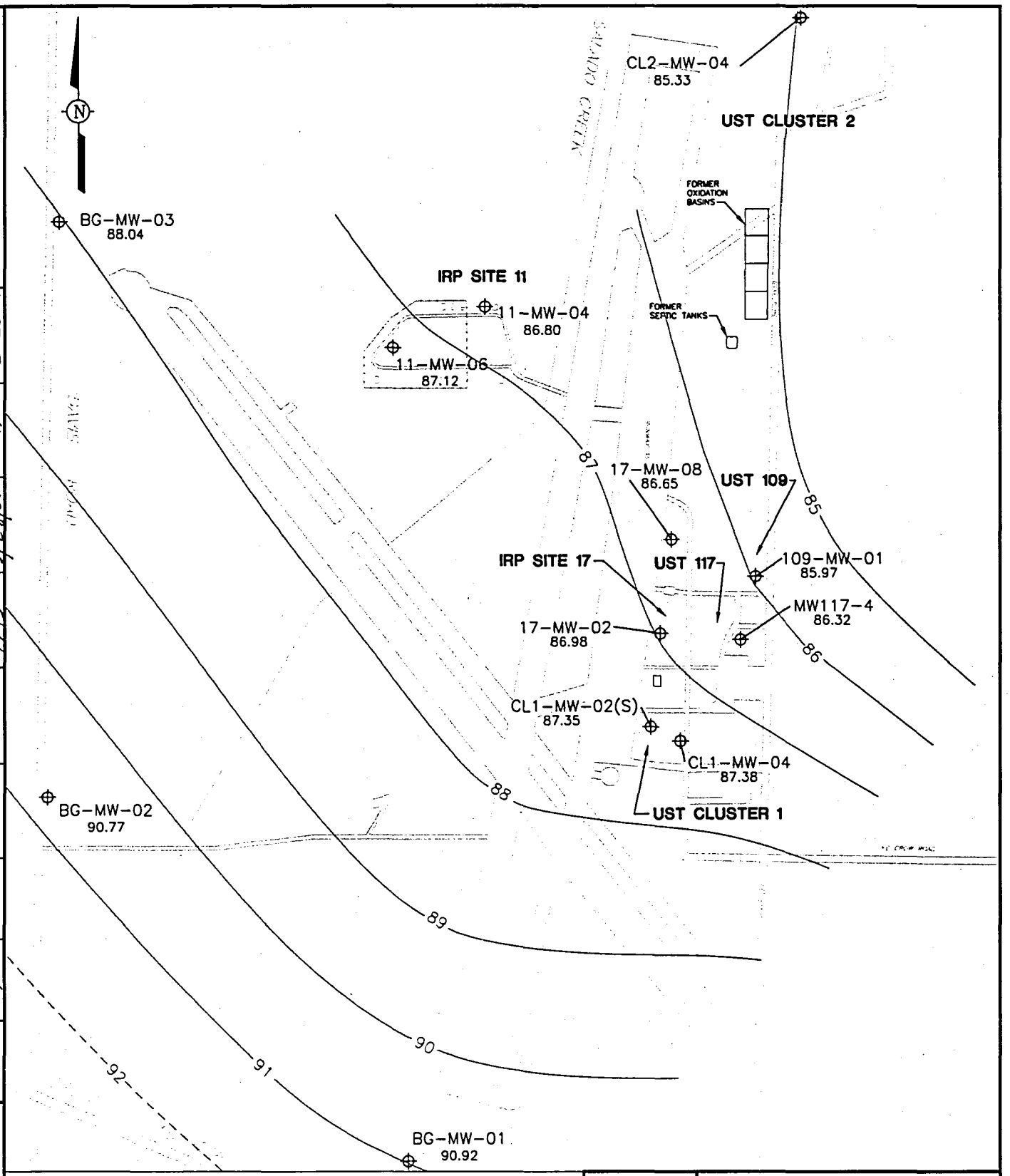
IT CORPORATION

NASA
CROWS LANDING FLIGHT FACILITY
CROWS LANDING, CALIFORNIA

FIGURE 2
WELL LOCATION MAP
QUARTERLY BASEWIDE GROUNDWATER VERIFICATION AND ANALYSIS
QUARTERLY BASEWIDE GROUNDWATER VERIFICATION SAMPLING AND ANALYSIS

| IMAGE | X-REF | OFFICE | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| --- | --- | CONCORD | BJ 3-13-01 | TFB 3/26/01 | BH 3-28-01 | 800063-B20 |

FORMAT REVISION 2/26/99




| IMAGE | X-REF | OFFICE | DRAWN BY | | CHECKED BY | | APPROVED BY | | DRAWING NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| --- | bayeast | Concord | BJ | 3-14-01 | TFB | 3/24/01 | BH | 3-28-01 | 800063-A7 |

LEGEND

⊕ MONITORING WELL LOCATIONS

BG-MW-01 WELL ID

90.02 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

SCALE

0 1000 2000 FEET

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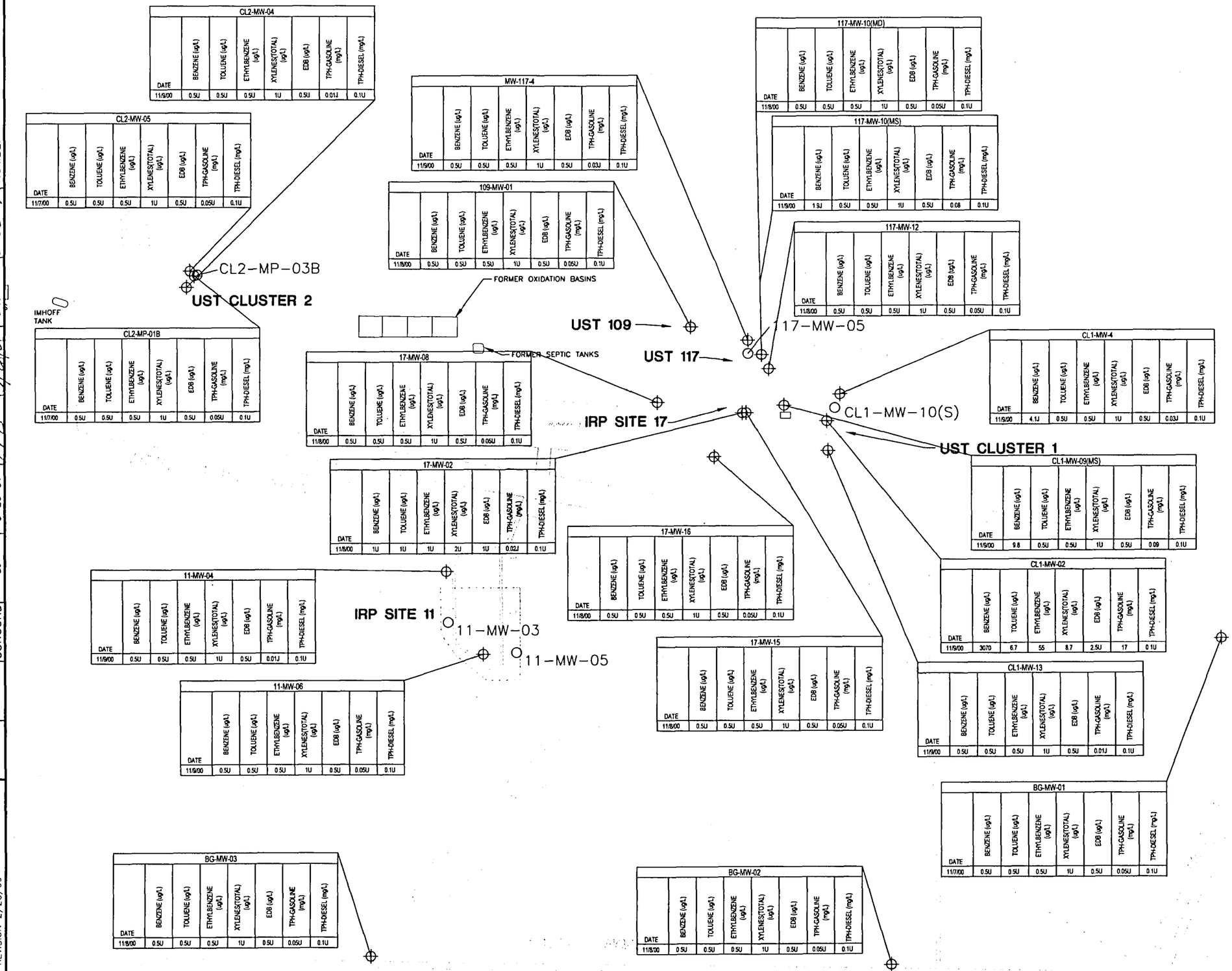
CROWS LANDING, CALIFORNIA

FIGURE 3

WATER TABLE ELEVATION MAP
NOVEMBER 2000
QUARTERLY BASEWIDE GROUNDWATER VERIFICATION SAMPLING AND ANALYSIS




| CL2-MW-04 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.01J | 0.1U |

| CL2-MW-05 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/7/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| MW-117-4 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.03J | 0.1U |

| 109-MW-01 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| 117-MW-10(MD) | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| 117-MW-10(MS) | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 1.5J | 0.5U | 0.5U | 1U | 0.5U | 0.08 | 0.1U |

| 117-MW-12 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| CL2-MP-01B | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/7/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| 17-MW-08 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| CL1-MW-4 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 4.1J | 0.5U | 0.5U | 1U | 0.5U | 0.03J | 0.1U |

| 17-MW-02 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 1U | 1U | 1U | 2U | 1U | 0.02J | 0.1U |

| CL1-MW-09(MS) | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 9.8 | 0.5U | 0.5U | 1U | 0.5U | 0.09 | 0.1U |

| 17-MW-16 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| CL1-MW-02 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 3070 | 6.7 | 55 | 8.7 | 2.5U | 17 | 0.1U |

| 11-MW-04 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.01J | 0.1U |

| 17-MW-15 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| CL1-MW-13 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.01J | 0.1U |

| 11-MW-06 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| BG-MW-01 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/7/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| BG-MW-03 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/9/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

| BG-MW-02 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATE | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | XYLENES(TOTAL) (ug/L) | EDB (ug/L) | TPH-GASOLINE (mg/L) | TPH-DIESEL (mg/L) |
| 11/8/00 | 0.5U | 0.5U | 0.5U | 1U | 0.5U | 0.05U | 0.1U |

## LEGEND

- ⊕ MONITORING WELL LOCATIONS
- ○ MONITORING WELLS INCLUDED IN BASEWIDE WATER LEVEL MONITORING

EDB = 1,2-DIBROMOETHANE

400 0 400 800

SCALE: 1"=800'

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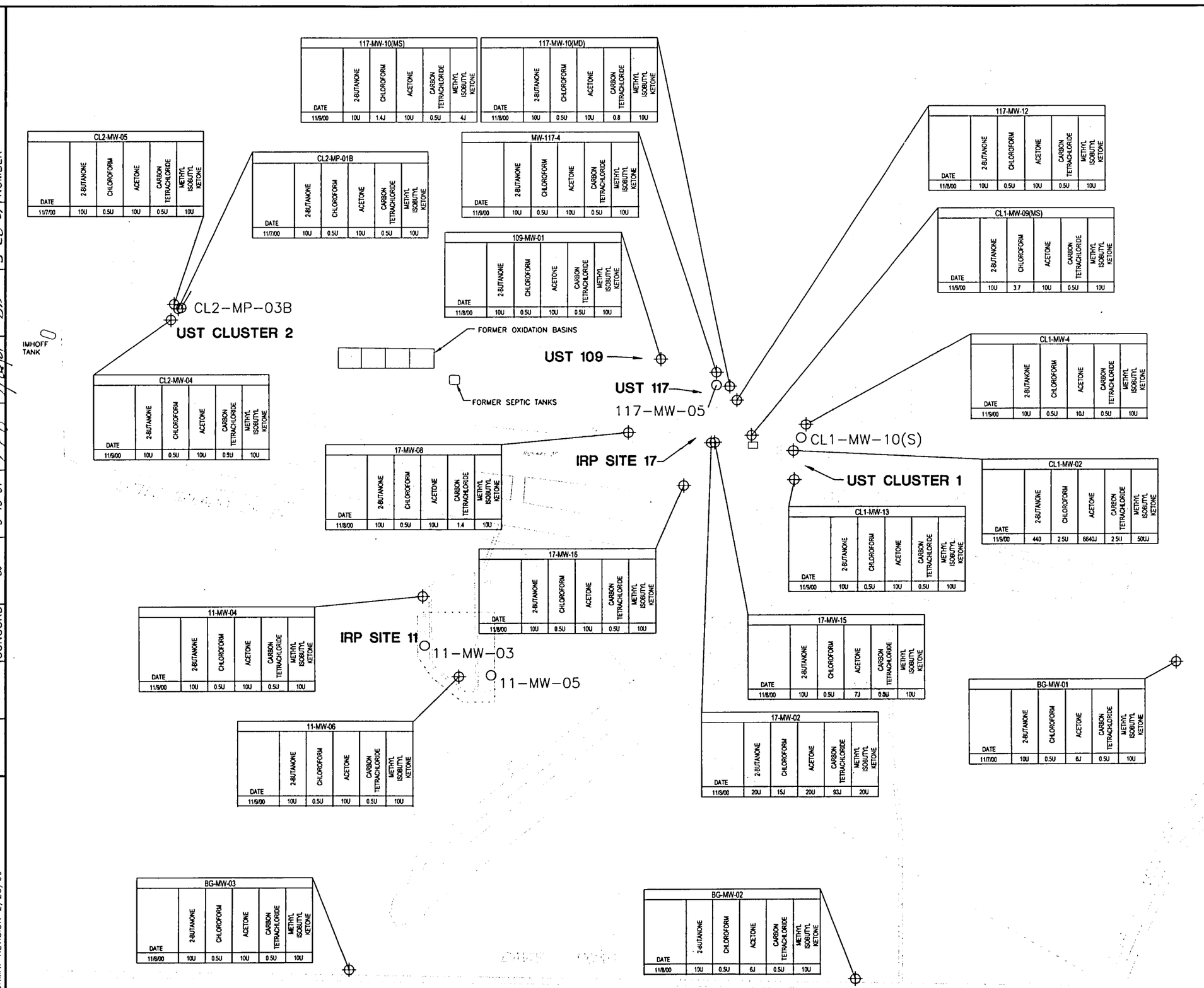
CROWS LANDING, CALIFORNIA

FIGURE 4
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
NOVEMBER – 2000
QUARTERLY BASEWIDE GROUNDWATER VERIFICATION SAMPLING AND ANALYSIS

| IMAGE | X-REF | OFFICE | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| --- | --- | CONCORD | BJ 3-20-01 | TFB 3/28/01 | BH 3-28-01 | 800063-B23 |

FORMAT REVISION 2/26/99




| 117-MW-10(MS) | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 10U | 1.4J | 10U | 0.5U | 4J |

| 117-MW-10(MD) | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 10U | 0.8 | 10U |

| CL2-MW-05 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/7/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| CL2-MP-01B | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/7/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| MW-117-4 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/5/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| 109-MW-01 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| 117-MW-12 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| CL1-MW-09(MS) | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/5/00 | 10U | 3.7 | 10U | 0.5U | 10U |

| CL1-MW-4 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 10U | 0.5U | 10J | 0.5U | 10U |

| CL2-MW-04 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| 17-MW-08 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 10U | 1.4 | 10U |

| CL1-MW-02 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 440 | 2.5U | 6640J | 2.5U | 50UJ |

| CL1-MW-13 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| 17-MW-16 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| 11-MW-04 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| 17-MW-15 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 7J | 0.5U | 10U |

| BG-MW-01 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/7/00 | 10U | 0.5U | 6J | 0.5U | 10U |

| 17-MW-02 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 20U | 15J | 20U | 93J | 20U |

| 11-MW-06 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/9/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| BG-MW-03 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 10U | 0.5U | 10U |

| BG-MW-02 | | | | | |
|---|---|---|---|---|---|
| DATE | 2-BUTANONE | CHLOROFORM | ACETONE | CARBON TETRACHLORIDE | METHYL ISOBUTYL KETONE |
| 11/8/00 | 10U | 0.5U | 6J | 0.5U | 10U |

## LEGEND

⊕ MONITORING WELL LOCATIONS

○ MONITORING WELLS INCLUDED IN BASEWIDE WATER LEVEL MONITORING

NOTE:
UNITS FOR CONCENTRATIONS ARE IN $\mu g/L$.

400 0 400 800
SCALE: 1"=800'

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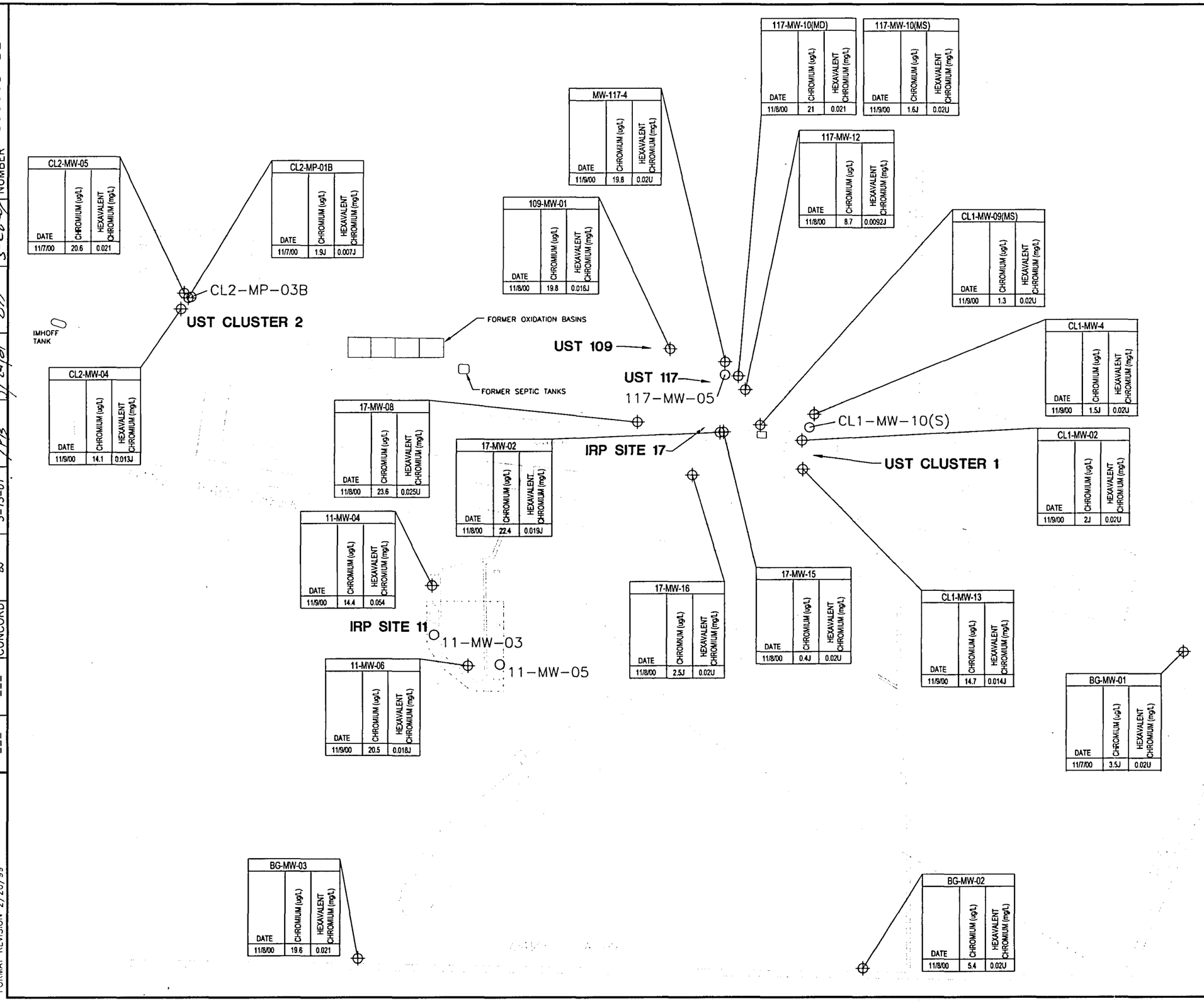
CROWS LANDING, CALIFORNIA

FIGURE 5

CONCENTRATIONS OF ORGANIC SOLVENTS IN GROUNDWATER NOVEMBER – 2000
QUARTERLY BASEWIDE GROUNDWATER VERIFICATION SAMPLING AND ANALYSIS

| IMAGE | X-REF | OFFICE | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| --- | --- | CONCORD | BJ 3-13-01 | 3/12/01 | BH 3-28-01 | 800063-B22 |

FORMAT REVISION 2/26/99




IT CORPORATION

NASA
CROWS LANDING FLIGHT FACILITY
CROWS LANDING, CALIFORNIA

FIGURE 6

CONCENTRATIONS OF CHROMIUM IN GROUNDWATER NOVEMBER – 2000
QUARTERLY BASEWIDE GROUNDWATER VERIFICATION SAMPLING AND ANALYSIS

| IMAGE | X-REF | OFFICE | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| --- | --- | CONCORD | BJ 3-13-01 | TFB 7/24/01 | BTT 3-28-01 | 800063-B21 |

FORMAT REVISION 2/26/99

# TABLES

**Table 1**
**Basewide Groundwater Verification Sampling Wells**

| Well ID | Description | Screened Interval (ft bgs)[1] | Approximate Depth of Screen Midpoint Below Water Table (feet) |
|---|---|---|---|
| BG-MW-01 | Southern boundary background well in shallow aquifer | 84-104 | 17 |
| BG-MW-02 | Western boundary background well in shallow aquifer | 80-100 | 12 |
| BG-MW-03 | Western boundary background well in shallow aquifer | 64-84 | 9 |
| **Site 11** | | | |
| 11-MW-04 | Shallow well at boundary of Site 11 | 50 - 75 | 10 |
| 11-MW-06 | Shallow well inside Site 11 | 50 - 75 | 7 |
| **Site 17** | | | |
| 17-MW-02 | Shallow and deep aquifer well in the area of highest carbon tetrachloride contamination at Site 17 | 49-74 | 6 |
| 17-MW-15 | | 260-270 | 205 |
| 17-MW-08 | Shallow aquifer well on the northern plume boundary of Site 17 | 50-75 | 11 |
| 17-MW-16 | Mid-deep aquifer well cross gradient of the Site 17 plume | 170-180 | 116 |
| **UST 109** | | | |
| 109-MW-01 | Shallow aquifer well inside the UST 109 soil contamination area | 43-68 | 7 |
| **UST 117** | | | |
| 117-MW-10(S) | Shallow and mid-deep cluster well in the center of maximum concentration plume of UST 117 | 50-75 | Not available |
| 117-MW-10(MD) | | 185 - 195 | 134 |
| 117-MW-12 | Deep aquifer well within the soil contamination area of Site 117 and the carbon tetrachloride plume of site 17 | 238 - 248 | 184 |
| MW117-4 | Shallow aquifer well on the eastern edge of UST 117 plume | 36 - 56 | -5 |

**Table 1 (continued)**
**Basewide Groundwater Verification Sampling Wells**

| | | | |
|---|---|---|---|
| **UST Cluster 2** | | | |
| CL1-MW-02 | Shallow and mid-deep wells within the Cluster 1 plume | 53 - 78 | 8 |
| CL1-MW-13 | | 140-150 | 88 |
| CL1-MW-4 | Shallow well up gradient of the Cluster 1 plume | 50-75 | 6 |
| CL1-MW-09(MS) | Mid-shallow well inside the Cluster 1 plume | 95 - 105 | 44 |
| CL2-MP-01A | Shallow groundwater monitoring point inside Cluster 2 plume | 28-38 | Dry |
| CL2-MP-01B | | 41 - 51 | 5 |
| CL2-MW-04 | Shallow well outside the Cluster 2 plume | 30 - 55 | Not available |
| CL2-MW-05 | Mid-shallow well inside Cluster 2 plume | 80-90 | 47 |

[1] *ft bgs denotes feet below ground surface.*

Table 2
Water Level Survey Data
Quarterly Basewide Groundwater Verification and Analysis - Fall 2000
Nasa Crows Landing Flight Facility

| Well Desigantion | Approximate Screened Interval (ft bgs[1]) | | Well Elevation Data | | | | November 2000 Water Level Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Top of Casing Elevation | Approximate Screen Elevation (ft amsl[2]) | | | Measured Water Level 11/00 | Water Level Elevation 11/00 | Depth of Screen Bottom Below Water Table | Depth Of Screen Midpoint Below Water Table |
| | Top | Bottom | (ft amsl) | Top | Midpoint | Bottom | (ft btoc) | (ft amsl) | Feet | Feet |
| 17-MW-15 | 260 | 270 | 141.86 | -118 | -123 | -128 | 59.72 | 82.14 | 210 | 205 |
| 117-MW-12 (D) | 238 | 248 | 142.44 | -96 | -101 | -106 | 59.07 | 83.37 | 189 | 184 |
| 117-MW-10 (MD) | 185 | 195 | 140.26 | -44 | -49 | -54 | 55.98 | 84.28 | 139 | 134 |
| 17-MW-16 | 170 | 180 | 141.08 | -28 | -33 | -38 | 58.35 | 82.73 | 121 | 116 |
| CL1-MW-13 (MD) | 140 | 150 | 144.62 | 5 | 0 | -5 | 56.68 | 87.94 | 93 | 88 |
| CL2-MW-05 | 80 | 90 | 122.16 | 43 | 38 | 33 | 37.21 | 84.95 | 52 | 47 |
| CL1-MW-09 (MS) | 95 | 105 | 143.14 | 48 | 43 | 38 | 56.00 | 87.14 | 49 | 44 |
| 17-MW-08 | 50 | 75 | 138.45 | 88 | 76 | 63 | 51.80 | 86.65 | 23 | 11 |
| BG-MW-01 | 84 | 104 | 167.68 | 84 | 74 | 64 | 76.76 | 90.92 | 27 | 17 |
| 11-MW-04 | 49 | 74 | 138.31 | 89 | 77 | 64 | 51.51 | 86.80 | 22 | 10 |
| 117-MW-10 (S) | 50 | 75 | 140.25 | 91 | 78 | 66 | NA | NA | NA | NA |
| 109-MW-01 | 43 | 68 | 134.22 | 92 | 79 | 67 | 48.25 | 85.97 | 19 | 7 |
| CL1-MW-02 (S) | 53 | 78 | 144.75 | 92 | 79 | 67 | 57.40 | 87.35 | 21 | 8 |
| 11-MW-06 | 50 | 75 | 142.36 | 92 | 80 | 67 | 55.24 | 87.12 | 20 | 7 |
| 17-MW-02 | 49 | 74 | 142.02 | 93 | 81 | 68 | 55.04 | 86.98 | 19 | 6 |
| CL2-MW-04 | 30 | 55 | 123.17 | 94 | 81 | 69 | 38.14 | 85.03 | 16 | 4 |
| CL1-MW-04 | 50 | 75 | 144.12 | 94 | 81 | 69 | 56.74 | 87.38 | 18 | 6 |
| BG-MW-03 | 64 | 84 | 153.32 | 89 | 79 | 69 | 65.28 | 88.04 | 19 | 9 |
| BG-MW-02 | 80 | 100 | 171.59 | 89 | 79 | 69 | 80.82 | 90.77 | 22 | 12 |
| CL2-MP-01 (B) | 41 | 51 | 123.14 | 82 | 77 | 72 | 41.02 | 82.12 | 10 | 5 |
| MW117-4 | 36 | 56 | 137.57 | 102 | 92 | 82 | 51.25 | 86.32 | 5 | -5 |
| CL2-MP-01 (A) | 28 | 38 | 123.06 | 95 | 90 | 85 | Dry | Dry | Dry | Dry |

[1] *ft bgs denotes feet below ground surface.*
[2] *ft amsl denotes feet above mean sea level.*

Table 3

| Sample ID | Method | BG-MW-01 | BG-MW-02 | BG-MW-03 | 11-MW-04 | 11-MW-06 |
|---|---|---|---|---|---|---|
| Aquifer | | shallow | shallow | shallow | shallow | shallow |
| Screen Interval (ft bgs) | | 84-104 | 80-100 | 64-84 | 50-75 | 50-75 |
| alkalinity | 310.1 | 442 mg/L | 150 mg/L | 160 mg/L | 270 mg/L | 160 mg/L |
| TDS | 160.1 | 584 mg/L | 704 mg/L | 721 mg/L | 913 mg/L | 909 mg/L |
| chloride | 9056 | 71 mg/L | 100 mg/L | 101 mg/L | 108 mg/L | 98 mg/L |
| nitrate | 9056 | 4.7 mg/L | 10 mg/L | 10 mg/L | 15 mg/L | 14 mg/L |
| nitrite | 9056 | <1 mg/L | <1 mg/L | <1 mg/L | <1.3 mg/L | <1 mg/L |
| orthophosphate | 9056 | <2 mg/L | <2 mg/L | <2 mg/L | <2.5 mg/L | <2 mg/L |
| sulfate | 9056 | 67 mg/L | 180 mg/L | 180 mg/L | 250 mg/L | 333 mg/L |
| antimony | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| arsenic | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| barium | 6010 | 72.3 µg/L | 21.5 µg/L | 29.5 µg/L | 67.1 µg/L | 18.9 µg/L |
| beryllium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| cadmium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| chromium | 6010 | 3.5J µg/L | 5.4 µg/L | 19.6 µg/L | 14.4 µg/L | 20.5 µg/L |
| cobolt | 6010 | 3.5J µg/L | 4.3J µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| copper | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| lead | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| mercury | 7470 | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.05 µg/L |
| molybdenum | 6010 | <8.5 µg/L | <8.7 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| nickel | 6010 | 51.6 µg/L | 19.6 µg/L | 7.6 µg/L | 11.4 µg/L | 5.9 µg/L |
| selenium | 6010 | 2.8J µg/L | 5.4J µg/L | 4.3 µg/L | 1.9J µg/L | 9.9J µg/L |
| silver | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| thallium | 6010 | 1.9J µg/L | <10 µg/L | 1.6J µg/L | <10 µg/L | <10 µg/L |
| vanadium | 6010 | 1.6J µg/L | 3J µg/L | 2J µg/L | 2.7J µg/L | 2J µg/L |
| zinc | 6010 | 240 µg/L | 148 µg/L | 21.3 µg/L | 44.2 µg/L | 8J µg/L |
| hexavalent chromium | 7196A | <0.02 mg/L | <0.02 mg/L | 0.021 mg/L | 0.054 mg/L | 0.018J mg/L |
| TPH-gasoline | M8015V | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | 0.01J mg/L | <0.05 mg/L |
| TPH-jet fuel | M8015V | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-diesel | M8015E | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L |
| TPH-motor oil | M8015E | <0.1[b] mg/L | <0.1[b] mg/L | <0.1[b] mg/L | <0.1 mg/L | <0.1 mg/L |

Table 3

| | | | | | | |
|---|---|---|---|---|---|---|
| **acetone** | **8260** | **6J** µg/L | **6J** µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **benzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **bromoform** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **sec-butylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **tert-butylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **carbon disulfide** | **8260** | **0.3J** µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **carbon tetrachloride** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **chloroform** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **dibromochloromethane** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dibromoethane** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dichloroethane** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **ethylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **isopropylbenzene (cumene)** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **2-butanone (MEK)** | **8260** | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **methylene chloride** | **8260** | <4.4 µg/L | <4.2 µg/L | <3.6J µg/L | **0.8J** µg/L | **0.7** µg/L |
| **methyl isobutyl ketone (MIBK)** | **8260** | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **MTBE** | **8260** | <0.5 µg/L | **0.5J** µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| **napthalene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L |
| **toluene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **trichloroethene** | **8260** | <0.5 µg/L | <0.5 µg/L | **0.7** µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2,4-trimethylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,3,5-trimethylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **xylenes** | **8260** | <1 µg/L | <1 µg/L | <1 µg/L | <1 µg/L | <1 µg/L |

Detections are bolded

J qualifier indicates that the associated numeric value is an estimate.

[a] Sample chromatogram contained some unknown peak in $C_{12}$ to $C_{16}$ range.

[b] Sample chromatogram contained some unknown peak in motor oil range

Table 3

| Sample ID | Method | 17-MW-02 | 17-MW-08 | 17-MW-15 | 17-MW-15 dup | 17-MW-16 |
|---|---|---|---|---|---|---|
| Aquifer | | shallow | shallow | deep | CL99-01 | mid deep |
| Screen Interval (ft bgs) | | 49-74 | 50-75 | 260-270 | | 170-180 |
| alkalinity | 310.1 | 160 mg/L | 100 mg/L | 62 mg/L | 57 mg/L | 190 mg/L |
| TDS | 160.1 | 686 mg/L | 1300 mg/L | 1310 mg/L | 1330 mg/L | 1370 mg/L |
| chloride | 9056 | 60 mg/L | 60 mg/L | 50 mg/L | 51 mg/L | 52 mg/L |
| nitrate | 9056 | 21.4 mg/L | 34 mg/L | <2 mg/L | <2 mg/L | 3 mg/L |
| nitrite | 9056 | <1 mg/L | <2.5 mg/L | <2.5 mg/L | <2.5 mg/L | <2.5 mg/L |
| orthophosphate | 9056 | <2 mg/L | <5 mg/L | <5 mg/L | <5 mg/L | <5 mg/L |
| sulfate | 9056 | 160 mg/L | 616 mg/L | 778 mg/L | 761 mg/L | 678 mg/L |
| antimony | 6010 | <10 µg/L | 4.7J µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| arsenic | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | 3.5J µg/L |
| barium | 6010 | 45.3 µg/L | 16.5 µg/L | 36.2 µg/L | 38.3 µg/L | 20.4 µg/L |
| beryllium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| cadmium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| chromium | 6010 | 22.4 µg/L | 23.6 µg/L | 0.4J µg/L | 0.57J µg/L | 2.5J µg/L |
| cobolt | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| copper | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | 3.5J µg/L | <10 µg/L |
| lead | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| mercury | 7470 | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| molybdenum | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | 6.3 µg/L | <5 µg/L |
| nickel | 6010 | 3.9J µg/L | 5.7 µg/L | 0.84J µg/L | 1.2J µg/L | 7.9 µg/L |
| selenium | 6010 | 21.1 µg/L | 34.5 µg/L | <10 µg/L | <10 µg/L | 14 µg/L |
| silver | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| thallium | 6010 | <10 µg/L | 1.1J µg/L | <10 µg/L | 1.7J µg/L | 2.2J µg/L |
| vanadium | 6010 | 4.3J µg/L | 2J µg/L | 1.5J µg/L | 1.2J µg/L | 3.3J µg/L |
| zinc | 6010 | 16.9 µg/L | 16.3 µg/L | 6.6J µg/L | 11.5 µg/L | 7.7J µg/L |
| hexavalent chromium | 7196A | 0.019J mg/L | 0.025 mg/L | <0.02 mg/L | <0.02 mg/L | <0.02 mg/L |
| TPH-gasoline | M8015V | 0.02J mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-jet fuel | M8015V | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-diesel | M8015E | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L |
| TPH-motor oil | M8015E | <0.1 mg/L | <0.1 mg/L | <0.1 mg/L | <0.1 mg/L | <0.1 mg/L |

Table 3

| | | | | | | |
|---|---|---|---|---|---|---|
| **acetone** | **8260** | <20 µg/L | <10 µg/L | **7J** µg/L | **5J** µg/L | <10 µg/L |
| **benzene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **bromoform** | **8260** | **3J** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **sec-butylbenzene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **tert-butylbenzene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **carbon disulfide** | **8260** | <20 µg/L | <10 µg/L | <10 µg/L | **0.4J** µg/L | <10 µg/L |
| **carbon tetrachloride** | **8260** | **93J** µg/L | **1.4** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **chloroform** | **8260** | **15J** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **dibromochloromethane** | **8260** | **1J** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dibromoethane** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dichloroethane** | **8260** | <0.9J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **ethylbenzene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **isopropylbenzene (cumene)** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **2-butanone (MEK)** | **8260** | <20 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **methylene chloride** | **8260** | <0.7J µg/L | <1.6 µg/L | <3 µg/L | <1.9 µg/L | <1.1 µg/L |
| **methyl isobutyl ketone (MIBK)** | **8260** | <20 µg/L | <5 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **MTBE** | **8260** | <10 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| **napthalene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **toluene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **trichloroethene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2,4-trimethylbenzene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,3,5-trimethylbenzene** | **8260** | <1 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **xylenes** | **8260** | <2 µg/L | <1 µg/L | <1 µg/L | <1 µg/L | <1 µg/L |

Detections are bolded

J qualifier indicates that the associated numeric value

[a] Sample chromatogram contained some unknown pe

[b] Sample chromatogram contained some unknown pe

Table 3

| Sample ID | Method | 109-MW-01 | 109-MW-01 dup | 117-MW-10(MS) | 117-MW-10(MD) | 117-MW-12 |
|---|---|---|---|---|---|---|
| Aquifer | | shallow | CL99-03 | mid shallow | mid deep | deep |
| Screen Interval (ft bgs) | | 43-68 | | 115-125 | 185-195 | 238-248 |
| alkalinity | 310.1 | 230 mg/L | 230 mg/L | 210 mg/L | 140 mg/L | 120 mg/L |
| TDS | 160.1 | 902 mg/L | 872 mg/L | 736 mg/L | 764 mg/L | 1390 mg/L |
| chloride | 9056 | 67 mg/L | 65 mg/L | 87 mg/L | 40 mg/L | 100 mg/L |
| nitrate | 9056 | 10 mg/L | 9.5 mg/L | 5 mg/L | 9.6 mg/L | 14 mg/L |
| nitrite | 9056 | <1 mg/L | <1 mg/L | <1 mg/L | <1 mg/L | <2.5 mg/L |
| orthophosphate | 9056 | <2 mg/L | <2 mg/L | <2 mg/L | <2 mg/L | <5 mg/L |
| sulfate | 9056 | 303 mg/L | 292 mg/L | 234 mg/L | 302 mg/L | 701 mg/L |
| antimony | 6010 | <10 µg/L | <10 µg/L | 4.6J µg/L | <10 µg/L | <10 µg/L |
| arsenic | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | 4.6J µg/L | <5 µg/L |
| barium | 6010 | 25.7 µg/L | 25.8 µg/L | 25.8 µg/L | 19.3 µg/L | 39.1 µg/L |
| beryllium | 6010 | 0.11J µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| cadmium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| chromium | 6010 | 19.8 µg/L | 20.1 µg/L | 1.6J µg/L | 21 µg/L | 8.7 µg/L |
| cobolt | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| copper | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| lead | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| mercury | 7470 | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| molybdenum | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| nickel | 6010 | 5.4 µg/L | 4.2J µg/L | 10.6 µg/L | 6.1 µg/L | 7.3 µg/L |
| selenium | 6010 | 10.5 µg/L | 8J µg/L | 3.7J µg/L | 13.3 µg/L | 42.9 µg/L |
| silver | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| thallium | 6010 | <10 µg/L | 1J µg/L | <10 µg/L | 1.1J µg/L | 1J µg/L |
| vanadium | 6010 | 2.7J µg/L | 2.4J µg/L | 3.6J µg/L | 13.1 µg/L | 3.4J µg/L |
| zinc | 6010 | 7.7J µg/L | 15.6 µg/L | 21.7 µg/L | 4.9J µg/L | 6.3J µg/L |
| hexavalent chromium | 7196A | 0.016J mg/L | 0.019J mg/L | <0.02 mg/L | 0.021 mg/L | 0.0092J mg/L |
| TPH-gasoline | M8015V | <0.05 mg/L | <0.05 mg/L | 0.08 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-jet fuel | M8015V | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-diesel | M8015E | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L |
| TPH-motor oil | M8015E | <0.1[b] mg/L | <0.1[b] mg/L | <0.1[b] mg/L | <0.1[b] mg/L | <0.1 mg/L |

Table 3

| | | | | | | |
|---|---|---|---|---|---|---|
| **acetone** | **8260** | <10 µg/L | <10J µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **benzene** | **8260** | <0.5 µg/L | <0.5J µg/L | **1.9J** µg/L | <0.5 µg/L | <0.5 µg/L |
| **bromoform** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **sec-butylbenzene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **tert-butylbenzene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **carbon disulfide** | **8260** | **0.7J** µg/L | <10J µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **carbon tetrachloride** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | **0.8** µg/L | <0.5 µg/L |
| **chloroform** | **8260** | <0.5 µg/L | <0.5J µg/L | **1.4J** µg/L | <0.5 µg/L | <0.5 µg/L |
| **dibromochloromethane** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dibromoethane** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dichloroethane** | **8260** | <0.5 µg/L | <0.5J µg/L | **0.9** µg/L | <0.5 µg/L | <0.5 µg/L |
| **ethylbenzene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **isopropylbenzene (cumene)** | **8260** | **0.5** µg/L | <0.5J µg/L | **0.5J** µg/L | **0.4J** µg/L | **0.4J** µg/L |
| **2-butanone (MEK)** | **8260** | <10 µg/L | <10J µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **methylene chloride** | **8260** | <2.5 µg/L | <2.5J µg/L | **0.7J** µg/L | <1.6 µg/L | <3 µg/L |
| **methyl isobutyl ketone (MIBK)** | **8260** | <10 µg/L | <10J µg/L | **4J** µg/L | <10 µg/L | <10 µg/L |
| **MTBE** | **8260** | <5 µg/L | <5J µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| **napthalene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **toluene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **trichloroethene** | **8260** | <0.5 µg/L | **1.6J** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2,4-trimethylbenzene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,3,5-trimethylbenzene** | **8260** | <0.5 µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **xylenes** | **8260** | <1 µg/L | <1J µg/L | <1 µg/L | <1 µg/L | <1 µg/L |

Detections are bolded

J qualifier indicates that the associated numeric value

[a] Sample chromatogram contained some unknown pe

[b] Sample chromatogram contained some unknown pe

Table 3

| Sample ID | Method | MW117-4 | CL1-MW-02 | CL1-MW-04 | CL1-MW-09(MS) | CL1-MW-09(MS) dup |
|---|---|---|---|---|---|---|
| Aquifer | | shallow | shallow | shallow | mid shallow | CL99-2 |
| Screen Interval (ft bgs) | | 36-56 | 53-78 | 50-75 | 95-105 | |
| alkalinity | 310.1 | 250 mg/L | 731 mg/L | 290 mg/L | 210 mg/L | 210 mg/L |
| TDS | 160.1 | 1270 mg/L | 1320 mg/L | 797 mg/L | 1220 mg/L | 1220 mg/L |
| chloride | 9056 | 334 mg/L | 90 mg/L | 70 mg/L | 110 mg/L | 110 mg/L |
| nitrate | 9056 | 31 mg/L | <1 mg/L | 3.7 mg/L | 9.1 mg/L | 8.9 mg/L |
| nitrite | 9056 | <4 mg/L | <1.3 mg/L | <1 mg/L | <2 mg/L | <2 mg/L |
| orthophosphate | 9056 | <8 mg/L | <2.5 mg/L | <2 mg/L | <4 mg/L | <4 mg/L |
| sulfate | 9056 | 30 mg/L | 210 mg/L | 235 mg/L | 519 mg/L | 517 mg/L |
| antimony | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| arsenic | 6010 | <5 µg/L | 27.4 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| barium | 6010 | 206 µg/L | 96 µg/L | 25.7 µg/L | 24.3 µg/L | 23.8 µg/L |
| beryllium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| cadmium | 6010 | <2 µg/L | 0.24J µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| chromium | 6010 | 19.8 µg/L | 2J µg/L | 1.5J µg/L | 1.3J µg/L | 1.5J µg/L |
| cobolt | 6010 | <5 µg/L | 2.9J µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| copper | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| lead | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| mercury | 7470 | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| molybdenum | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| nickel | 6010 | 5.2 µg/L | 3.2J µg/L | 6.9 µg/L | 3J µg/L | 3.1J µg/L |
| selenium | 6010 | 2.3J µg/L | 6.8J µg/L | 3.1J µg/L | 19 µg/L | 17.6 µg/L |
| silver | 6010 | <10 µg/L | 1J µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| thallium | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | 1.7J µg/L | <10 µg/L |
| vanadium | 6010 | 2.2J µg/L | <10 µg/L | 2.4J µg/L | 1.9J µg/L | 2.2J µg/L |
| zinc | 6010 | 4.8J µg/L | 6.7J µg/L | 5.8J µg/L | 7.1J µg/L | 8J µg/L |
| hexavalent chromium | 7196A | <0.02 mg/L | <0.02 mg/L | <0.02 mg/L | <0.02 mg/L | <0.02 mg/L |
| TPH-gasoline | M8015V | 0.03J mg/L | 17 mg/L | 0.03J mg/L | 0.09 mg/L | 0.09 mg/L |
| TPH-jet fuel | M8015V | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-diesel | M8015E | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L |
| TPH-motor oil | M8015E | <0.1 mg/L | <0.1[b] mg/L | <0.1[b] mg/L | <0.1[b] mg/L | <0.1[b] mg/L |

Table 3

| | | | | | | |
|---|---|---|---|---|---|---|
| **acetone** | **8260** | <10 µg/L | **6640** µg/L | **10J** µg/L | <10 µg/L | <10 µg/L |
| **benzene** | **8260** | <0.5 µg/L | **3070** µg/L | **4.1J** µg/L | **9.8** µg/L | **10.3** µg/L |
| **bromoform** | **8260** | <0.5 µg/L | <2.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **sec-butylbenzene** | **8260** | <0.5 µg/L | **5** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **tert-butylbenzene** | **8260** | <0.5 µg/L | **12** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **carbon disulfide** | **8260** | <10 µg/L | <50 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **carbon tetrachloride** | **8260** | <0.5 µg/L | <2.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **chloroform** | **8260** | <0.5 µg/L | <2.5 µg/L | <0.5 µg/L | **3.7** µg/L | **3.8** µg/L |
| **dibromochloromethane** | **8260** | <0.5 µg/L | <2.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dibromoethane** | **8260** | <0.5 µg/L | <2.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dichloroethane** | **8260** | **5.8** µg/L | **27** µg/L | <0.5 µg/L | **1.5** µg/L | **1.5** µg/L |
| **ethylbenzene** | **8260** | <0.5 µg/L | **55** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **isopropylbenzene (cumene)** | **8260** | <0.5 µg/L | **170** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **2-butanone (MEK)** | **8260** | <10 µg/L | **440** µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **methylene chloride** | **8260** | **0.6** µg/L | **3** µg/L | **0.5J** µg/L | **1.3** µg/L | **1.2** µg/L |
| **methyl isobutyl ketone (MIBK)** | **8260** | <10 µg/L | <50 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **MTBE** | **8260** | <5 µg/L | <25 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| **napthalene** | **8260** | <0.5 µg/L | **5** µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L |
| **toluene** | **8260** | <0.5 µg/L | **6.7** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **trichloroethene** | **8260** | <0.5 µg/L | <2.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2,4-trimethylbenzene** | **8260** | <0.5 µg/L | **5.3** µg/L | <0.5J µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,3,5-trimethylbenzene** | **8260** | <0.5 µg/L | **2J** µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **xylenes** | **8260** | <1 µg/L | **8.7** µg/L | <1 µg/L | <1 µg/L | <1 µg/L |

Detections are bolded

J qualifier indicates that the associated numeric value

[a] Sample chromatogram contained some unknown pe

[b] Sample chromatogram contained some unknown pe

Table 3

| Sample ID | Method | CL1-MW-13 | CL2-MP-01(B) | CL2-MW-04 | CL2-MW-05 |
|---|---|---|---|---|---|
| Aquifer | | mid deep | shallow | shallow | mid shallow |
| Screen Interval (ft bgs) | | 140-150 | 41-51 | 30-55 | 80-90 |
| alkalinity | 310.1 | 150 mg/L | 420 mg/L | 360 mg/L | 310 mg/L |
| TDS | 160.1 | 779 mg/L | 1080 mg/L | 1110 mg/L | 860 mg/L |
| chloride | 9056 | 34 mg/L | 130 mg/L | 150 mg/L | 120 mg/L |
| nitrate | 9056 | 4.2 mg/L | 2 mg/L | 8.1 mg/L | 8.9 mg/L |
| nitrite | 9056 | <1.3 mg/L | <2 mg/L | <2 mg/L | <2 mg/L |
| orthophosphate | 9056 | <2.5 mg/L | <4 mg/L | <4 mg/L | <4 mg/L |
| sulfate | 9056 | 393 mg/L | 260 mg/L | 310 mg/L | 160 mg/L |
| antimony | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| arsenic | 6010 | 2.4J µg/L | 3.1J µg/L | <5 µg/L | <5 µg/L |
| barium | 6010 | 28.9 µg/L | 75.5 µg/L | 41.3 µg/L | 38.1 µg/L |
| beryllium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| cadmium | 6010 | <2 µg/L | <2 µg/L | <2 µg/L | <2 µg/L |
| chromium | 6010 | 14.7 µg/L | 1.9J µg/L | 14.1 µg/L | 20.6 µg/L |
| cobolt | 6010 | <5 µg/L | 1.3J µg/L | <5 µg/L | <5 µg/L |
| copper | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| lead | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| mercury | 7470 | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| molybdenum | 6010 | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| nickel | 6010 | 5 µg/L | 7.4 µg/L | 3J µg/L | 2.1J µg/L |
| selenium | 6010 | 10.1 µg/L | 4.1J µg/L | 3.2J µg/L | 6.4J µg/L |
| silver | 6010 | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| thallium | 6010 | <10 µg/L | 1J µg/L | <10 µg/L | 1.2J µg/L |
| vanadium | 6010 | 3.6J µg/L | 1.9J µg/L | 3.1J µg/L | 2.2J µg/L |
| zinc | 6010 | 3.7J µg/L | 9.1J µg/L | 8J µg/L | 7.9J µg/L |
| hexavalent chromium | 7196A | 0.014J mg/L | 0.007J mg/L | 0.013J mg/L | 0.021 mg/L |
| TPH-gasoline | M8015V | 0.01J mg/L | <0.05 mg/L | 0.01J mg/L | <0.05 mg/L |
| TPH-jet fuel | M8015V | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L | <0.05 mg/L |
| TPH-diesel | M8015E | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L | <0.1[a] mg/L |
| TPH-motor oil | M8015E | <0.1 mg/L | <0.1[b] mg/L | <0.1 mg/L | <0.1 mg/L |

Table 3

| | | | | | |
|---|---|---|---|---|---|
| **acetone** | **8260** | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **benzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **bromoform** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **sec-butylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **tert-butylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **carbon disulfide** | **8260** | <10 µg/L | **0.7J** µg/L | <10 µg/L | <10 µg/L |
| **carbon tetrachloride** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **chloroform** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **dibromochloromethane** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dibromoethane** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2-dichloroethane** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **ethylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **isopropylbenzene (cumene)** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **2-butanone (MEK)** | **8260** | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **methylene chloride** | **8260** | **1.1J** µg/L | <2.3 µg/L | **0.6** µg/L | <3.4 µg/L |
| **methyl isobutyl ketone (MIBK)** | **8260** | <10 µg/L | <10 µg/L | <10 µg/L | <10 µg/L |
| **MTBE** | **8260** | <5 µg/L | <5 µg/L | <5 µg/L | <5 µg/L |
| **napthalene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **toluene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **trichloroethene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,2,4-trimethylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **1,3,5-trimethylbenzene** | **8260** | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L | <0.5 µg/L |
| **xylenes** | **8260** | <1 µg/L | <1 µg/L | <1 µg/L | <1 µg/L |

Detections are bolded

J qualifier indicates that the associated numeric value

[a] Sample chromatogram contained some unknown pe

[b] Sample chromatogram contained some unknown pe

# APPENDIX A
# GROUNDWATER MONITORING DATA FORMS AND SAMPLE COLLECTION LOGS

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: BG-MW-01

Project Number: **800063** Date: 11/7/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 76.76 ft. Screen Depth: 84-104 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: [redacted] ml/min 450 mL

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1 °C* | *± 10 %* | *None* | |
| 8:35 | 2,000 mL | 7.32 | 0.59 | 18.3 | 9.51 | 57 | |
| 8:45 | 5,500 mL | 7.33 | 0.65 | 20.7 | 8.99 | 26.97 | |
| 8:55 | 10,000 mL | 7.28 | 0.63 | 19.2 | 8.81 | 18.37 | |
| 9:05 | 14,500 mL | 7.30 | 0.67 | 19.9 | 8.34 | 58 | |
| 9:15 | 19,000 mL | 7.30 | 0.69 | 20.9 | 8.19 | 50 | |
| 9:25 | 23,500 mL | 7.29 | 0.69 | 20.4 | 8.22 | 57 | |
| 9:35 | 28,000 mL | 7.29 | 0.71 | 21.5 | 8.33 | 49.16 | |
| 9:45 | 32,500 mL | 7.29 | 0.76 | 29.5 | 8.29 | 48.71 | |
| 10:05 | 41,000 mL | 7.26 | 0.73 | 22.9 | 8.30 | 45.96 | |
| 10:15 | 45,500 mL | 7.27 | 0.72 | 22.7 | 8.32 | 45.71 | |
| 10:25 | 50,000 mL | 7.26 | 0.73 | 22.9 | 8.34 | 42.10 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | |
| Sample Date/Time: | 11/7/00 10:30 |
| Sampler ID: | AM |
| Weather Conditions: | sun rain overcast Temp: 50 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

CAL. 11/7/00

HI 9583 Turb. meter
D.O 99FC023
pH-4

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: CL2-MW-05
Date: 11/7/00

## WELL MEASURMENTS

Depth to Water : 37.21 ft. Screen Depth: 80-90 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: ~~225~~ 80 ml/min Calibrated YSI 3500, YSI 58, DRT Turbidity meter

## PURGE DATA

| Time 1013 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *± 10%* | *None* | |
| 1019 | | 7.20 | 1.10 | 19.4 | 4.30 | 25 | |
| 1024 | | 7.26 | 1.12 | 20.2 | 4.22 | 13 | |
| 1029 | | 7.29 | 1.11 | 20.4 | 4.18 | 10 | |
| 1039 | | 7.31 | 1.10 | 20.1 | 3.42 | 8.6 | |
| 1049 | | 7.31 | 1.12 | 20.8 | 4.25 | 5.5 | |
| 1054 | | 7.30 | 1.12 | 20.5 | 4.07 | 5.1 | |
| 1059 | | 7.31 | 1.12 | 20.3 | 4.07 | 4.0 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | CL2-MW-05 |
| Sample Date/Time: | 11/7/00 1105 |
| Sampler ID: | GVS |
| Weather Conditions: | (sun) rain overcast Temp: 60 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: CL2-MP-01R
Date: 11/7/00

## WELL MEASURMENTS

Depth to Water : 41.02 ft.
Screen Depth: 41-51 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 30 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1 °C* | *± 10 %* | *None* | |
| 1327 | | 7.33 | 1.08 | 18.8 | 4.38 | 24 | |
| 1332 | | 7.38 | 1.20 | 19.4 | 5.61 | 46 | |
| 1337 | | 7.34 | 1.32 | 20.6 | 5.65 | 46 | |
| 1342 | | 7.29 | 1.38 | 21.8 | 5.31 | 38 | |
| 1347 | | 7.28 | 1.45 | 23.6 | 5.15 | 38 | |
| 1353 | | 7.26 | 1.55 | 26.4 | 4.84 | 31 | |
| 1357 | | 7.28 | 1.56 | 26.7 | 4.84 | 25 | |
| 1402 | | 7.27 | 1.57 | 27.0 | 4.52 | 26 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | CL2 - MP-01R |
| Sample Date/Time: | 11/7/00 1410 |
| Sampler ID: | BJS |
| Weather Conditions: | (sun) rain overcast Temp: 65 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 17-MW-15

Project Number: **800063** Date: 11/7/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 59.72 ft. Screen Depth: 260-270 ft.

Purging Method= Low Flow Pumps (Micro-Purge) Pumping at slowest rate - drawdown still 32'

Flow Rate: 450 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 2 00 | 1,000mL | 11.70 | 2.74 | 21.4 | 4.07 | 11.37 | |
| 2 10 | 5,500mL | 11.80 | 2.22 | 21.2 | 3.77 | 0.00 | |
| 2 20 | 10,000mL | 11.01 | 2.07 | 21.3 | 2.09 | 213 | Turned (Grey) |
| 2 30 | 14,500mL | 11.27 | 1.78 | 21.3 | 1.42 | 485 | Alot of Sand |
| 2 40 | 19,000mL | 11.25 | 2.02 | 21.2 | 1.67 | 781 | |
| 2 50 | 23,500mL | 11.23 | 1.94 | 21.1 | 1.41 | 471 | |
| 2 54 | | 11.21 | 1.90 | 21.1 | ~~2.60~~ 2.8 mg/mL | 533 | |
| 2 58 | | 11.20 | 1.89 | 21.0 | 1.83 | 167 | |
| 1500 | | 11.19 | 1.87 | 21.0 | 1.47 | | |
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| | | DUP | | 99-CL-01 | | | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | 17-MW-15 CL-99-1 |
| Sample Date/Time: | 11/7/00 1505 Dup 1510 |
| Sampler ID: | [illegible] |
| Weather Conditions: | sun rain overcast Temp: 65 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 um filter prior to collecting into acidified sample co

High sediment content at 265' raised pump up to 260' - Needs redeveloping

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: BG-MW-02
Date: 11-7-06

## WELL MEASURMENTS

Depth to Water : 80.82 ft.
Screen Depth: 80-100 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 450 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 1 05 | 1,000ml | 7.26 | 0.90 | 20.4 | 9.54 | 190 | |
| 1 15 | 5500ml | 7.44 | 0.90 | 19.8 | 9.41 | 145 | almost Dry |
| 1 25 | 10,000 | | | | | | |
| 1 35 | 14,500 | | | | | | |
| 1 45 | 19,000ml | | | | | | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | BG-MW-02 |
| Sample Date/Time: | 11/8/00 6:00 AM |
| Sampler ID: | NM |
| Weather Conditions: | (sun) rain overcast Temp: ~60 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

Pump Stuck in this well

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: 17MW-16
Date: 11/8/00

## WELL MEASURMENTS

Depth to Water : 58.35 ft.
Screen Depth: 170-180 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 800 ml/min
Calibrated YSI 3500, YSI 58, DRT 15 CE

## PURGE DATA

| Time 0605 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1 °C* | *± 10 %* | *None* | |
| 0611 | | 7.82 | 1.35 | 17.1 | 4.99 | 25 | |
| 0620 | | 7.66 | 1.34 | 17.3 | 4.51 | 25 | |
| 0630 | | 7.66 | 1.30 | 16.3 | 4.02 | 20 | |
| 0640 | | 7.65 | 1.30 | 16.2 | 3.84 | 18 | |
| 0650 | | 7.63 | 1.35 | 17.8 | 2.93 | 18 | |
| 0700 | | 6.74 | 1.31 | 16.4 | 2.73 | 15 | |
| 0710 | | 7.65 | 1.27 | 15.2 | 2.72 | 12 | |
| 0720 | | 7.66 | 1.27 | 15.3 | 2.60 | 11 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | 17MW-16 |
| Sample Date/Time: | 11/8/00 0720 |
| Sampler ID: | BS |
| Weather Conditions: | (sun) rain overcast Temp: 45 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: BG-MW-03
Date: 11-8-00

## WELL MEASURMENTS

Depth to Water : 65.28 ft.
Screen Depth: 64-84 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 500 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *± 10%* | *None* | |
| 645 | 1,500 | 9.22 | 0.76 | 15.5 | 7.30 | 727 | |
| 655 | 6,500 | 9.69 | 0.73 | 15.9 | 7.03 | 571 | |
| 705 | 11,500 | 7.99 | 0.88 | 22.3 | 7.01 | 546 | |
| 715 | 16,500 | 7.81 | 0.86 | 22.1 | 6.67 | 441 | |
| 725 | 21,500 | 7.63 | 0.82 | 21.9 | 6.66 | 366 | |
| 735 | 26,500 | 7.59 | 0.83 | 21.8 | 6.65 | 230 | |
| 745 | 31,500 | 7.58 | 0.84 | 21.7 | 6.67 | 125 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | BG-MW-03 |
| Sample Date/Time: | 11/8/00 750 |
| Sampler ID: | MM |
| Weather Conditions: | Sun rain overcast Temp: 50 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

CAL. 11/8/00
HI 93703 Turbmeter
DC-99F0023
PH 4

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 17-MW-02
Project Number: **800063** Date: 11/8/00
Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 55.04 ft. Screen Depth: 49-74 ft.
Purging Method= Low Flow Pumps (Micro-Purge) 61.5
Flow Rate: 500 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 850 | 2,000mL | 8.07 | 0.67 | 19.0 | 7.53 | 170 | |
| 900 | 7,000mL | 7.66 | 0.77 | 22.6 | 7.11 | 252 | |
| 910 | 12,000mL | 7.59 | 0.74 | 23.4 | 6.91 | 66 | |
| 920 | 17,000mL | 7.58 | 0.61 | 23.8 | 6.84 | 32.01 | |
| 925 | 19500mL | 7.57 | 0.26 | 23.6 | 6.84 | 33.71 | |
| 930 | 22,000mL | 7.56 | 0.26 | 23.6 | 6.85 | 36.13 | |
| 935 | 24,500mL | 7.56 | 0.26 | 23.7 | 6.83 | 35.41 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | 17-MW-02 |
| Sample Date/Time: | 11/8/00 940 |
| Sampler ID: | [illegible] |
| Weather Conditions: | (sun) rain overcast Temp: 60 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: 117-MW-10 (MD)
Date: 11/8/00

## WELL MEASURMENTS

Depth to Water : 55.98 ft.
Screen Depth: 185-195 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 500 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| 0851 | | | | | | | |
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *± 10%* | *None* | |
| 0900 | ~~7.63~~ | 7.63 | .859 | 19.0 | 4.76 | 49 | |
| 0910 | | 7.70 | .898 | 19.8 | 4.75 | 113 | Silty |
| 0920 | | 7.74 | .929 | 21.1 | 5.55 | 160 | Cloudy |
| 0930 | | 7.72 | .903 | 19.8 | 4.91 | 100 | Cloudy |
| 0940 | | 7.74 | .900 | 19.9 | 4.99 | 100 | Cloudy |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | 117-MW-10 (MD) |
| Sample Date/Time: | 11/8/00 0950 |
| Sampler ID: | SJS |
| Weather Conditions: | sun rain overcast Temp: 55 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 17-MW-08

Project Number: **800063** Date: 11/8/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 51.82 ft. Screen Depth: 50-75 / 67.5 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: 500 ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *± 10%* | *None* | |
| 1035 | 2000 mL | 7.70 | 1.03 | 20.0 | 7.02 | 62 | |
| 1045 | 7,000 mL | 7.72 | 1.25 | 21.7 | 6.69 | 54 | |
| 1055 | 12,000 mL | 7.67 | 0.95 | 22.9 | 6.35 | 44.39 | |
| 1105 | 17,000 mL | 7.53 | 1.26 | 23.1 | 6.36 | 35.30 | |
| 1115 | 22,000 mL | 7.53 | 1.34 | 22.3 | 6.12 | 21.00 | |
| 1125 | 27,000 mL | 7.56 | 1.38 | 23.2 | 6.33 | 35.91 | |
| 1135 | 32,000 mL | 7.55 | 1.34 | 23.3 | 6.38 | 28.19 | |
| 1140 | 34,500 mL | 7.54 | 1.34 | 23.1 | 6.40 | 24.89 | |
| 1145 | 37,000 mL | 7.55 | 1.35 | 23.2 | 6.47 | 13.11 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | |
| Sample Date/Time: | 11/8/00 11:50 |
| Sampler ID: | CM |
| Weather Conditions: | (sun) rain overcast Temp: 65 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *u*m filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: 117-MW-12
Date: 11/8/00

## WELL MEASURMENTS

Depth to Water : 59.07 ft.
Screen Depth: 238-248 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 500 ml/min

## PURGE DATA

| Time 1129 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 1139 | | 8.06 | 1.45 | 21.5 | 6.21 | 65 | |
| 1149 | | 9.85 | 1.70 | 22.8 | 5.57 | 70 | Calcium in Pump line |
| 1159 | | 8.82 | 1.66 | 23.4 | 5.83 | 77 | |
| 1209 | | 8.28 | 1.60 | 23.4 | 5.97 | 86 | |
| 1219 | | 8.28 | 1.61 | 23.9 | 6.10 | 63 | |
| 1229 | | | | | | | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | 117-MW-12 |
| Sample Date/Time: | 11/8/00 1226 |
| Sampler ID: | SJS |
| Weather Conditions: | sun rain overcast Temp: 65 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 um filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 109-MW-01

Project Number: **800063** Date: 11/8/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 48.25 ft. Screen Depth: 43-68 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: 500 ml/min

## PURGE DATA

| Time 1327 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 1329 | | 7.63 | 1.13 | 212 | 6.55 | 139 | Purged down to pump intake in less than 3 min. |
| | | | | | | | |
| | | | | | | | |
| Recharged w/in 10 min - Collect sample as we can - w/ rest time for recharge - | | | | | | | |
| Sediment in well - pump set ~ 55' | | | | | | | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | 109-MW-01 FIELD DUPE CL-99-3 12/6/00 |
| Sample Date/Time: | 11/8/00 1350 |
| Sampler ID: | BJS |
| Weather Conditions: | (sun) rain overcast Temp: 70 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 117-MW-10S

Project Number: **800063** Date: 11/9/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 56.62 ft. Screen Depth: 50-75 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: 300 ml/min Calibrated YSI 3500, YSI58, DRT-15CE

## PURGE DATA

| Time 0612 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1 °C* | *± 10 %* | *None* | |
| 0631 | | 7.40 | .925 | 17.9 | 6.03 | 107 | |
| 0635 | | 7.40 | .934 | 18.2 | 5.56 | 25 | |
| 0640 | | 7.40 | .939 | 18.4 | 5.07 | 16 | |
| 0645 | | 7.40 | .922 | 17.6 | 4.87 | 13 | |
| 0650 | | 7.40 | .913 | 17.2 | 4.77 | 11 | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | 117-MW-10S |
| Sample Date/Time: | 11/9/00 0655 |
| Sampler ID: | RJS |
| Weather Conditions: | sun, rain overcast Temp: 48 °F |
| Sample Collection Method: | ~~PUMP~~ –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 um filter prior to collecting into acidified sample co

Had Trouble with Pump While Sampling water warmed up. Possible from motor heat.

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: CL2-MW-04
Date: 11/9/00

## WELL MEASURMENTS

Depth to Water : 38.14 ft.
Screen Depth: 30-55 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ml/min
Pump set @ ~47'

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 0725 | 1.5 | 6.90 | 1786 | 19.9 | 2 | | |
| 0730 | 2.0 | 6.89 | 1790 | 20.0 | 1 | | |
| 0735 | 2.5 | 6.87 | 1787 | 20.0 | 1 | | |
| 0740 | 3.0 | 6.87 | 1789 | 20.0 | 1 | 68.2 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | CL2-MW-04 |
| Sample Date/Time: | 11/9/00 0750 |
| Sampler ID: | JA |
| Weather Conditions: | (sun) rain overcast Temp: 50 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

Meter Calib. – 9.74/1000, 7.03/700, 10.03/1000, 4.02/400

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: CL2-MP01A
Date: 11/9/00

## WELL MEASURMENTS

Depth to Water : 41.15 ft.
Screen Depth: 28-38 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ml/min
DTB - 41.8

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| | | | | | | | |
| | | — Well Dry — | | | | | |
| | | No Sample collected | | | | | |
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## SAMPLING INFORMATION

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|---|---|
| Sample Number: | CL2-MP01A ~~Field Dup CL GW-2~~ |
| Sample Date/Time: | 11/9/00 |
| Sampler ID: | |
| Weather Conditions: | sun rain overcast Temp: ~40 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 11-MW-04
Project Number: **800063** Date: 11/9/00
Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 51.51 ft. Screen Depth: 50-75 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 500 ml/min

## PURGE DATA

| Time 0751 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1 °C* | *± 10 %* | *None* | |
| 0753 | | 7.47 | .962 | 17.1 | 6.0 | 600 | |
| 0801 | | 7.32 | 1.03 | 16.8 | 6.04 | 860 | Silt + Pumped down to intake |
| 0809 | | 7.33 | 1.11 | 18.6 | 6.39 | 655 | |
| 0814 | | 7.34 | 1.11 | 19.2 | 5.82 | 426 | |
| 0822 | | 7.33 | 1.11 | 19.0 | 6.10 | 355 | |
| 0827 | | 7.32 | 1.18 | 22.0 | 5.79 | 288 | |
| 0835 | | 7.30 | 1.21 | 22.8 | 6.03 | 176 | |
| 0845 | | 7.33 | 1.12 | 20.1 | 5.40 | 680 | |
| 0855 | | 7.36 | 1.12 | 19.9 | 6.15 | 612 | |
| 0859 | | 7.34 | 1.17 | 21.6 | 5.58 | 470 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | 11-MW-04 |
| Sample Date/Time: | 11/9/00 0910 |
| Sampler ID: | DJS |
| Weather Conditions: | (sun) rain overcast Temp: 60 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: CL1-MW-09 (MS)
Date: 11/9/00

## WELL MEASURMENTS

Depth to Water : 56.0 ft.
Screen Depth: 95-105 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *± 10%* | *None* | |
| 0850 | 1.00 | 6.99 | 1744 | 17.0 | 2 | 305 | |
| 0855 | 2.00 | 6.99 | 1740 | 19.5 | 2 | 3.7 | |
| 0900 | 2.75 | 7.01 | 1740 | 20.4 | 2 | 193 | |
| 0905 | 3.75 | 7.10 | 1727 | 20.9 | 2 | 80 | |
| 0910 | 4.75 | 7.10 | 1726 | 20.7 | 2 | 130 | |
| 0915 | 5.75 | 7.10 | 1729 | 20.8 | 2 | 124 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | CL1-MW-09 (MS) on 12/5/00 |
| Sample Date/Time: | 11-9-00 0925 FIELD DUPE CL-99-2 |
| Sampler ID: | JA |
| Weather Conditions: | sun rain overcast Temp: _____ °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing**
Project Number: **800063**
Project Location: **Crows Landing**

Well ID: 11-MW-06
Date: 11/9/00

## WELL MEASURMENTS

Depth to Water : 55.24 ft.
Screen Depth: 50.75 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: 500 ml/min

## PURGE DATA

| Time 0950 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *±10%* | *None* | |
| 0955 | | 7.34 | 1.06 | 19.4 | 6.52 | 140 | Pumped down to pump intake |
| 1007 | | 7.43 | 1.10 | 20.6 | 7.62 | 101 | went down to |
| 1015 | | 7.48 | 1.13 | 21.9 | 7.50 | 43 | pump intake |
| 1025 | | 7.49 | 1.55 | 22.4 | 7.69 | 33 | every 2.5 Liters |
| 1035 | | 7.47 | 1.17 | 23.7 | 7.48 | 40 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | 11-MW-06 |
| Sample Date/Time: | 11/9/00/1045 |
| Sampler ID: | BJS |
| Weather Conditions: | (sun) rain overcast Temp: 70 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: MW117-4

Project Number: **800063** Date: 11/9/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 51.25 ft. Screen Depth: 36-56 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 1040 Start 3 gal | | 7.00 | 1865 | 20.1 | 3 | 170 | |
| | | | | | | | |
| Dry at 3 gal | | | | | | | |
| 1150 recharge | | 7.07 | 1797 | 21.0 | 3 | 131 | |
| | | | | | | | |
| let recharge 3 times to try to clear up turbidity | | | | | | | |
| but never happened | | | | | | | |
| | | | | | | | |
| * Not enough water or fast enough recharge rate for low flow. | | | | | | | |
| Per Dave Foley we will pump dry & wait for recharge & collect sample. | | | | | | | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | MW117-4 |
| Sample Date/Time: | 11/9/00 1200 |
| Sampler ID: | JA |
| Weather Conditions: | sun rain overcast Temp: 60 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: CLI - MW-13

Project Number: **800063** Date: 11/9/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 56.68 ft. Screen Depth: 140-150 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: 500 ml/min

## PURGE DATA

| Time 1145 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1°C* | *± 10 %* | *None* | |
| 1150 | | 11.16 | 1447 | 20.5 | 5.19 | 53 | |
| 1200 | | 9.21 | 880 | 20.2 | 3.68 | 95 | |
| 1210 | | 8.23 | 922 | 19.7 | 3.36 | 120 | |
| 1220 | | 7.99 | 922 | 19.4 | 3.40 | 75 | |
| 1230 | | | | | | | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | CLI-MW-13 |
| Sample Date/Time: | 11/9/00 1230 |
| Sampler ID: | BJS |
| Weather Conditions: | (sun) rain overcast Temp: 65 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: CL1-MW-4

Project Number: **800063** Date: 11/9/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 56.74 ft. Screen Depth: 50-75 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: ml/min

## PURGE DATA

| Time | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3%* | *±1°C* | *± 10%* | *None* | |
| 1255 | 1 gal | 6.99 | 1213 | 21.1 | 2 | 995 | |
| 1300 | 2 gal | 7.02 | 1211 | 21.9 | 2 | 987 | |
| 1305 | 3 gal | 7.01 | 1215 | 22.0 | 2 | 739 | |
| 1310 | 4 gal | 7.01 | 1212 | 22.1 | 2 | 851 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | CL1-MW-4 |
| Sample Date/Time: | 11.9.00 1330 |
| Sampler ID: | JA |
| Weather Conditions: | sun, rain overcast Temp: ~65 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# GROUNDWATER MONITORING DATA FORM

## PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: CL1-MW-02

Project Number: **800063** Date: 11/9/00

Project Location: **Crows Landing**

## WELL MEASURMENTS

Depth to Water : 57.40 ft. Screen Depth: 53-78 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: 500 ml/min

## PURGE DATA

| Time 1514 | Volume Purged | pH | Cond. (us) | Temp. (C) | D. O. (ppm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|
| *Stabilization criteria* | | *±0.1* | *±3 %* | *±1 °C* | *± 10 %* | *None* | |
| 1517 | | 6.75 | 1.38 | 20.3 | 3.06 | 72 | |
| 1524 | | 6.71 | 1.49 | 21.2 | 2.01 | 52 | |
| 1534 | | 6.64 | 1.58 | 21.6 | 1.95 | 30 | |
| 1544 | | 6.59 | 1.68 | 23.6 | 1.69 | 25 | |
| 1554 | | 6.59 | 1.72 | 25.2 | 1.60 | 21 | |
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## SAMPLING INFORMATION

| | |
|---|---|
| Sample Number: | CL1-MW-02 |
| Sample Date/Time: | 11/9/00 1404 |
| Sampler ID: | BJS |
| Weather Conditions: | (sun) rain overcast Temp: 55 °F |
| Sample Collection Method: | PUMP –Low Flow |
| Volume Collected and Analyses | **EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **CAM 17 metals** (dissolved) 1-500 ml plastic, **Cr+6** 1-500 ml plastic, **Anions** 1-500 ml plastic, **Alkalinity & TDS** 1-500 ml plastic |

Comments: Filter metals through 0.45 *um* filter prior to collecting into acidified sample co

# APPENDIX B
# LABORATORY ANALYTICAL RESULTS, CERTIFICATES OF ANALYSIS, AND CHAINS OF CUSTODY

## Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | 109-MW-01 | | 11-MW-04 | | 11-MW-06 | | 17-MW-10(MD | | 117-MW-10MS | | 117-MW-12 | | 17-MW-02 | | 17-MW-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/08/2000 | | 11/09/2000 | | 11/09/2000 | | 11/08/2000 | | 11/09/2000 | | 11/08/2000 | | 11/08/2000 | | 11/08/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| **General Chemistry** | | | | | | | | | | | | | | | | | |
| ALKALINITY | mg/L | 230 | | 270 | | 160 | | 140 | | 210 | | 120 | | 160 | | 100 | |
| CHLORIDE | mg/L | 67 | | 108 | | 98 | | 40 | | 87 | | 100 | | 60 | | 60 | |
| NITRATE AS N | mg/L | 10 | | 15 | | 14 | | 9.6 | | 5 | | 14 | | 21.4 | | 34 | |
| NITRITE | mg/L | 1 | U | 1.3 | U | 1 | U | 1 | U | 1 | U | 2.5 | U | 1 | U | 2.5 | U |
| PHOSPHATE | mg/L | 2 | U | 2.5 | U | 2 | U | 2 | U | 2 | U | 5 | U | 2 | U | 5 | U |
| SULFATE | mg/L | 303 | | 250 | | 333 | | 302 | | 234 | | 701 | | 160 | | 616 | |
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 902 | | 913 | | 909 | | 764 | | 736 | | 1390 | | 686 | | 1300 | |
| **Hexavalent Chromium (EPA 7196A)** | | | | | | | | | | | | | | | | | |
| HEXAVALENT CHROMIUM | mg/L | 0.016 | J | 0.054 | | 0.018 | J | 0.021 | | 0.02 | U | 0.0092 | J | 0.019 | J | 0.025 | U |
| **Metals (EPA 6010B/7000)** | | | | | | | | | | | | | | | | | |
| ANTIMONY | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 4.6 | J | 10 | U | 10 | U | 4.7 | J |
| ARSENIC | ug/L | 5 | U | 5 | U | 5 | U | 4.6 | J | 5 | U | 5 | U | 5 | U | 5 | U |
| BARIUM | ug/L | 25.7 | | 67.1 | | 18.9 | | 19.3 | | 25.8 | | 39.1 | | 45.3 | | 16.5 | |
| BERYLLIUM | ug/L | 0.11 | J | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| CADMIUM | ug/L | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| CHROMIUM | ug/L | 19.8 | | 14.4 | | 20.5 | | 21 | | 1.6 | J | 8.7 | | 22.4 | | 23.6 | |
| COBALT | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| COPPER | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| LEAD | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| MERCURY | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| MOLYBDENUM | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| NICKEL | ug/L | 5.4 | | 11.4 | | 5.9 | | 6.1 | | 10.6 | | 7.3 | | 3.9 | J | 5.7 | |
| SELENIUM | ug/L | 10.5 | | 1.9 | J | 9.9 | J | 13.3 | | 3.7 | J | 42.9 | | 21.1 | | 34.5 | |
| SILVER | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| THALLIUM | ug/L | 10 | U | 10 | U | 10 | U | 1.1 | J | 10 | U | 1 | J | 10 | U | 1.1 | J |
| VANADIUM | ug/L | 2.7 | J | 2.7 | J | 2 | J | 13.1 | | 3.6 | J | 3.4 | J | 4.3 | J | 2 | J |
| ZINC | ug/L | 7.7 | J | 44.2 | | 8 | J | 4.9 | J | 21.7 | | 6.3 | J | 16.9 | | 16.3 | |
| **Petroleum Hydrocarbons (EPA 8015B)** | | | | | | | | | | | | | | | | | |
| DIESEL | mg/L | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| GASOLINE | mg/L | 0.05 | U | 0.01 | J | 0.05 | U | 0.05 | U | 0.08 | | 0.05 | U | 0.02 | J | 0.05 | U |
| JP-4 | mg/L | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| MOTOR OIL | mg/L | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| **VOCs (EPA 8260B)** | | | | | | | | | | | | | | | | | |
| 1,1,1,2-TETRACHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,1,1-TRICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,1,2,2-TETRACHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,1,2-TRICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,1-DICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,1-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,1-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |

Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | 109-MW-01 | | 11-MW-04 | | 11-MW-06 | | 17-MW-10(MD | | 117-MW-10MS | | 117-MW-12 | | 17-MW-02 | | 17-MW-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/08/2000 | | 11/09/2000 | | 11/09/2000 | | 11/08/2000 | | 11/09/2000 | | 11/08/2000 | | 11/08/2000 | | 11/08/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| VOCs (EPA 8260B) Continued | | | | | | | | | | | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,2,3-TRICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,2,4-TRICHLOROBENZENE | ug/L | 0.5 | UJ | 0.5 | UJ | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | UJ | 1 | UJ | 0.5 | UJ |
| 1,2,4-TRIMETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,2-DIBROMO-3-CHLOROPROPAN | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,2-DIBROMOETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,2-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,2-DICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.9 | J | 0.5 | U | 0.9 | UJ | 0.5 | U |
| 1,2-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,3,5-TRIMETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,3-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,3-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 1,4-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| 2-BUTANONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 20 | U | 10 | U |
| 2-HEXANONE | ug/L | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ | 20 | UJ | 10 | UJ |
| ACETONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 20 | U | 10 | U |
| BENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1.9 | J | 0.5 | U | 1 | U | 0.5 | U |
| BROMOBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| BROMOCHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| BROMODICHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| BROMOFORM | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 3 | J | 0.5 | U |
| BROMOMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| CARBON DISULFIDE | ug/L | 0.7 | J | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 20 | U | 10 | U |
| CARBON TETRACHLORIDE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.8 | | 0.5 | U | 0.5 | U | 93 | J | 1.4 | |
| CHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| CHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| CHLOROFORM | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1.4 | J | 0.5 | U | 15 | J | 0.5 | U |
| CHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| CIS-1,2-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| CIS-1,3-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| CUMENE | ug/L | 0.5 | | 0.5 | U | 0.5 | U | 0.4 | J | 0.5 | J | 0.4 | J | 1 | U | 0.5 | U |
| DIBROMOCHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | J | 0.5 | U |
| DIBROMOMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| DICHLORODIFLUOROMETHANE | ug/L | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | UJ | 1 | UJ | 0.5 | UJ |
| ETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| HEXACHLOROBUTADIENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| METHYL ISOBUTYL KETONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 4 | J | 10 | U | 20 | U | 10 | U |
| METHYLENE CHLORIDE | ug/L | 2.5 | U | 0.8 | J | 0.7 | | 1.6 | U | 0.7 | J | 3 | U | 0.7 | UJ | 1.6 | U |
| MTBE | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 10 | U | 5 | U |
| N-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |

## Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | 109-MW-01 | | 11-MW-04 | | 11-MW-06 | | 17-MW-10(MD | | 117-MW-10MS | | 117-MW-12 | | 17-MW-02 | | 17-MW-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/08/2000 | | 11/09/2000 | | 11/09/2000 | | 11/08/2000 | | 11/09/2000 | | 11/08/2000 | | 11/08/2000 | | 11/08/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| VOCs (EPA 8260B) Continued | | | | | | | | | | | | | | | | | |
| N-PROPYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| NAPHTHALENE | ug/L | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| O-CHLOROTOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| P-CHLOROTOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| P-CYMENE | ug/L | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| SEC-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| SEC-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| STYRENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TERT-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TETRACHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TRANS-1,2-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TRANS-1,3-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TRICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| TRICHLOROFLUOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| VINYL CHLORIDE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | U | 0.5 | U |
| XYLENES(TOTAL) | ug/L | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 2 | U | 1 | U |

*U qualifier indicates that the analyte was not detected at the specified detection limit*

*J qualifier indicates that the analyte was positively identified but the associated numerical value is below the reporting limit (RL).*

*UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is approximate.*

Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | 17-MW-15 | | 17-MW-16 | | BG-MW-01 | | BG-MW-02 | | BG-MW-03 | | CL1-MW-02 | | L1-MW-09(MS | | CL1-MW-13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/08/2000 | | 11/08/2000 | | 11/07/2000 | | 11/08/2000 | | 11/08/2000 | | 11/09/2000 | | 11/09/2000 | | 11/09/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| **General Chemistry** | | | | | | | | | | | | | | | | | |
| ALKALINITY | mg/L | 62 | | 190 | | 442 | | 150 | | 160 | | 731 | | 210 | | 150 | |
| CHLORIDE | mg/L | 50 | | 52 | | 71 | | 100 | | 101 | | 90 | | 110 | | 34 | |
| NITRATE AS N | mg/L | 2 | U | 3 | | 4.7 | | 10 | | 10 | | 1 | U | 9.1 | | 4.2 | |
| NITRITE | mg/L | 2.5 | U | 2.5 | U | 1 | U | 1 | U | 1 | U | 1.3 | U | 2 | U | 1.3 | U |
| PHOSPHATE | mg/L | 5 | U | 5 | U | 2 | U | 2 | U | 2 | U | 2.5 | U | 4 | U | 2.5 | U |
| SULFATE | mg/L | 778 | | 678 | | 67 | | 180 | | 180 | | 210 | | 519 | | 393 | |
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 1310 | | 1370 | | 584 | | 704 | | 721 | | 1320 | | 1220 | | 779 | |
| **Hexavalent Chromium (EPA 7196A)** | | | | | | | | | | | | | | | | | |
| HEXAVALENT CHROMIUM | mg/L | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 | U | 0.021 | | 0.02 | U | 0.02 | U | 0.014 | J |
| **Metals (EPA 6010B/7000)** | | | | | | | | | | | | | | | | | |
| ANTIMONY | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| ARSENIC | ug/L | 5 | U | 3.5 | J | 5 | U | 5 | U | 5 | U | 27.4 | | 5 | U | 2.4 | J |
| BARIUM | ug/L | 36.2 | | 20.4 | | 72.3 | | 21.5 | | 29.5 | | 96 | | 24.3 | | 28.9 | |
| BERYLLIUM | ug/L | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| CADMIUM | ug/L | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 0.24 | J | 2 | U | 2 | U |
| CHROMIUM | ug/L | 0.4 | J | 2.5 | J | 3.5 | J | 5.4 | | 19.6 | | 2 | J | 1.3 | | 14.7 | |
| COBALT | ug/L | 5 | U | 5 | U | 3.5 | J | 4.3 | J | 5 | U | 2.9 | J | 5 | U | 5 | U |
| COPPER | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| LEAD | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| MERCURY | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| MOLYBDENUM | ug/L | 5 | U | 5 | U | 8.5 | U | 8.7 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| NICKEL | ug/L | 0.84 | J | 7.9 | | 51.6 | | 19.6 | | 7.6 | | 3.2 | J | 3 | J | 5 | |
| SELENIUM | ug/L | 10 | U | 14 | | 2.8 | J | 5.4 | J | 4.3 | J | 6.8 | J | 19 | | 10.1 | |
| SILVER | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 1 | J | 10 | U | 10 | U |
| THALLIUM | ug/L | 10 | U | 2.2 | J | 1.9 | J | 10 | U | 1.6 | J | 10 | U | 1.7 | U | 10 | U |
| VANADIUM | ug/L | 1.5 | J | 3.3 | J | 1.6 | J | 3 | J | 2 | J | 10 | U | 1.9 | J | 3.6 | J |
| ZINC | ug/L | 6.6 | J | 7.7 | J | 240 | | 148 | | 21.3 | | 6.7 | J | 7.1 | J | 3.7 | J |
| **Petroleum Hydrocarbons (EPA 8015B)** | | | | | | | | | | | | | | | | | |
| DIESEL | mg/L | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 10 | U | 0.1 | U | 0.1 | U |
| GASOLINE | mg/L | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 17 | | 0.09 | | 0.01 | J |
| JP-4 | mg/L | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| MOTOR OIL | mg/L | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 10 | U | 0.1 | U | 0.1 | U |
| **VOCs (EPA 8260B)** | | | | | | | | | | | | | | | | | |
| 1,1,1,2-TETRACHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,1,1-TRICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2,2-TETRACHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2-TRICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,1-DICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,1-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,1-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |

Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | 17-MW-15 | | 17-MW-16 | | BG-MW-01 | | BG-MW-02 | | BG-MW-03 | | CL1-MW-02 | | L1-MW-09(MS | | CL1-MW-13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/08/2000 | | 11/08/2000 | | 11/07/2000 | | 11/08/2000 | | 11/08/2000 | | 11/09/2000 | | 11/09/2000 | | 11/09/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| VOCs (EPA 8260B) Continued | | | | | | | | | | | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,2,3-TRICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,2,4-TRICHLOROBENZENE | ug/L | 0.5 | UJ | 0.5 | UJ | 0.5 | UJ | 0.5 | UJ | 0.5 | UJ | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,2,4-TRIMETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 5.3 | | 0.5 | U | 0.5 | U |
| 1,2-DIBROMO-3-CHLOROPROPAN | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DIBROMOETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 27 | | 1.5 | | 0.5 | U |
| 1,2-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,3,5-TRIMETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2 | J | 0.5 | U | 0.5 | U |
| 1,3-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,3-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 1,4-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| 2-BUTANONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 440 | | 10 | U | 10 | U |
| 2-HEXANONE | ug/L | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ | 50 | UJ | 10 | UJ | 10 | UJ |
| ACETONE | ug/L | 7 | J | 10 | U | 6 | J | 6 | J | 10 | U | 6640 | J | 10 | U | 10 | U |
| BENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 3070 | | 9.8 | | 0.5 | U |
| BROMOBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| BROMOCHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| BROMODICHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| BROMOFORM | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| BROMOMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CARBON DISULFIDE | ug/L | 10 | U | 10 | U | 0.3 | J | 10 | U | 10 | U | 50 | U | 10 | U | 10 | U |
| CARBON TETRACHLORIDE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CHLOROFORM | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 3.7 | | 0.5 | U |
| CHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CIS-1,2-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CIS-1,3-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| CUMENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 170 | | 0.5 | U | 0.5 | U |
| DIBROMOCHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| DIBROMOMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| DICHLORODIFLUOROMETHANE | ug/L | 0.5 | UJ | 0.5 | UJ | 0.5 | UJ | 0.5 | UJ | 0.5 | UJ | 2.5 | U | 0.5 | U | 0.5 | U |
| ETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 55 | | 0.5 | U | 0.5 | U |
| HEXACHLOROBUTADIENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| METHYL ISOBUTYL KETONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 50 | U | 10 | U | 10 | U |
| METHYLENE CHLORIDE | ug/L | 3 | U | 1.1 | U | 4.4 | U | 4.2 | U | 3.6 | UJ | 3 | | 1.3 | | 1.1 | J |
| MTBE | ug/L | 5 | U | 5 | U | 5 | U | 0.5 | J | 5 | U | 25 | U | 5 | U | 5 | U |
| N-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |

## Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | 17-MW-15 | | 17-MW-16 | | BG-MW-01 | | BG-MW-02 | | BG-MW-03 | | CL1-MW-02 | | L1-MW-09(MS | | CL1-MW-13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/08/2000 | | 11/08/2000 | | 11/07/2000 | | 11/08/2000 | | 11/08/2000 | | 11/09/2000 | | 11/09/2000 | | 11/09/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| VOCs (EPA 8260B) Continued | | | | | | | | | | | | | | | | | |
| N-PROPYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| NAPHTHALENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 5 | | 0.5 | U | 0.5 | U |
| O-CHLOROTOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| P-CHLOROTOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| P-CYMENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| SEC-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 5 | | 0.5 | U | 0.5 | U |
| SEC-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| STYRENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| TERT-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 12 | | 0.5 | U | 0.5 | U |
| TETRACHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| TOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 6.7 | | 0.5 | U | 0.5 | U |
| TRANS-1,2-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| TRANS-1,3-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| TRICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.7 | | 2.5 | U | 0.5 | U | 0.5 | U |
| TRICHLOROFLUOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| VINYL CHLORIDE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 2.5 | U | 0.5 | U | 0.5 | U |
| XYLENES(TOTAL) | ug/L | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 8.7 | | 1 | U | 1 | U |

*U qualifier indicates that the analyte was not detected at the specified detection limit*

*J qualifier indicates that the analyte was positively identified but the associated numerical value is below the reporting limit (RL).*

*UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is approximate.*

Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | CL1-MW-4 | | CL2-MP-01B | | CL2-MW-04 | | CL2-MW-05 | | MW-117-4 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/09/2000 | | 11/07/2000 | | 11/09/2000 | | 11/07/2000 | | 11/09/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| **General Chemistry** | | | | | | | | | | | |
| ALKALINITY | mg/L | 290 | | 420 | | 360 | | 310 | | 250 | |
| CHLORIDE | mg/L | 70 | | 130 | | 150 | | 120 | | 334 | |
| NITRATE AS N | mg/L | 3.7 | | 2 | | 8.1 | | 8.9 | | 31 | |
| NITRITE | mg/L | 1 | U | 2 | U | 2 | U | 2 | U | 4 | U |
| PHOSPHATE | mg/L | 2 | U | 4 | U | 4 | U | 4 | U | 8 | U |
| SULFATE | mg/L | 235 | | 260 | | 310 | | 160 | | 30 | |
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 797 | | 1080 | | 1110 | | 860 | | 1270 | |
| **Hexavalent Chromium (EPA 7196A)** | | | | | | | | | | | |
| HEXAVALENT CHROMIUM | mg/L | 0.02 | U | 0.007 | J | 0.013 | J | 0.021 | | 0.02 | U |
| **Metals (EPA 6010B/7000)** | | | | | | | | | | | |
| ANTIMONY | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| ARSENIC | ug/L | 5 | U | 3.1 | J | 5 | U | 5 | U | 5 | U |
| BARIUM | ug/L | 25.7 | | 75.5 | | 41.3 | | 38.1 | | 206 | |
| BERYLLIUM | ug/L | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| CADMIUM | ug/L | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| CHROMIUM | ug/L | 1.5 | J | 1.9 | J | 14.1 | | 20.6 | | 19.8 | |
| COBALT | ug/L | 5 | U | 1.3 | J | 5 | U | 5 | U | 5 | U |
| COPPER | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| LEAD | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| MERCURY | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| MOLYBDENUM | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| NICKEL | ug/L | 6.9 | | 7.4 | | 3 | J | 2.1 | J | 5.2 | |
| SELENIUM | ug/L | 3.1 | J | 4.1 | J | 3.2 | J | 6.4 | J | 2.3 | J |
| SILVER | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| THALLIUM | ug/L | 10 | U | 1 | J | 10 | U | 1.2 | J | 10 | U |
| VANADIUM | ug/L | 2.4 | J | 1.9 | J | 3.1 | J | 2.2 | J | 2.2 | J |
| ZINC | ug/L | 5.8 | J | 9.1 | J | 8 | J | 7.9 | J | 4.8 | J |
| **Petroleum Hydrocarbons (EPA 8015B)** | | | | | | | | | | | |
| DIESEL | mg/L | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| GASOLINE | mg/L | 0.03 | J | 0.05 | U | 0.01 | J | 0.05 | U | 0.03 | J |
| JP-4 | mg/L | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| MOTOR OIL | mg/L | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| **VOCs (EPA 8260B)** | | | | | | | | | | | |
| 1,1,1,2-TETRACHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1,1-TRICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2,2-TETRACHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2-TRICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-DICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |

Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | CL1-MW-4 | | CL2-MP-01B | | CL2-MW-04 | | CL2-MW-05 | | MW-117-4 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/09/2000 | | 11/07/2000 | | 11/09/2000 | | 11/07/2000 | | 11/09/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| VOCs (EPA 8260B) Continued | | | | | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | ug/L | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2,3-TRICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2,4-TRICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | UJ | 0.5 | U |
| 1,2,4-TRIMETHYLBENZENE | ug/L | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DIBROMO-3-CHLOROPROPAN | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DIBROMOETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2-DICHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 5.8 | |
| 1,2-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,3,5-TRIMETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,3-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,3-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,4-DICHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 2-BUTANONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-HEXANONE | ug/L | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ | 10 | UJ |
| ACETONE | ug/L | 10 | J | 10 | U | 10 | U | 10 | U | 10 | U |
| BENZENE | ug/L | 4.1 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| BROMOBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| BROMOCHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| BROMODICHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| BROMOFORM | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| BROMOMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CARBON DISULFIDE | ug/L | 10 | U | 0.7 | J | 10 | U | 10 | U | 10 | U |
| CARBON TETRACHLORIDE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CHLOROBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CHLOROETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CHLOROFORM | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CIS-1,2-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CIS-1,3-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| CUMENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| DIBROMOCHLOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| DIBROMOMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| DICHLORODIFLUOROMETHANE | ug/L | 0.5 | U | 0.5 | UJ | 0.5 | U | 0.5 | UJ | 0.5 | U |
| ETHYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| HEXACHLOROBUTADIENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| METHYL ISOBUTYL KETONE | ug/L | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| METHYLENE CHLORIDE | ug/L | 0.5 | J | 2.3 | U | 0.6 | | 3.4 | U | 0.6 | |
| MTBE | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| N-BUTYLBENZENE | ug/L | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |

## Table B-1: NASA Crows Landing Groundwater Sample Results, Q4 2000, November

| Sample ID | | CL1-MW-4 | | CL2-MP-01B | | CL2-MW-04 | | CL2-MW-05 | | MW-117-4 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | 11/09/2000 | | 11/07/2000 | | 11/09/2000 | | 11/07/2000 | | 11/09/2000 | |
| Analyte | Units | Result | Qual | Result | Qual | Result | Qual | Result | Qual | Result | Qual |
| VOCs (EPA 8260B) Continued | | | | | | | | | | | |
| N-PROPYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| NAPHTHALENE | ug/L | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| O-CHLOROTOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| P-CHLOROTOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| P-CYMENE | ug/L | 0.5 | UJ | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| SEC-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| SEC-DICHLOROPROPANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| STYRENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TERT-BUTYLBENZENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TETRACHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TOLUENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TRANS-1,2-DICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TRANS-1,3-DICHLOROPROPENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TRICHLOROETHENE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| TRICHLOROFLUOROMETHANE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| VINYL CHLORIDE | ug/L | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| XYLENES(TOTAL) | ug/L | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |

*U qualifier indicates that the analyte was not detected at the specified detection limit*
*J qualifier indicates that the analyte was positively identified but the associated numerical value is below the reporting limit (RL).*
*UJ qualifier indicates that the analyte was not detected. However, the reported quantitation limit is approximate.*

**Table B-2: Field Duplicate Results, Crows Landing Ground Water, November 2000**

| Sample ID | Duplicate ID | Analyte | Sample Result | Validation Qualifier | Duplicate Result | Duplicate Qualifier | Units | RPD | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| **17-MW-15** | **CL-99-01** | **Alkalinity** | **62000** | | **57000** | | **UG/L** | **8** | **30** |
| **17-MW-15** | **CL-99-01** | **Chloride** | **50000** | | **51000** | | **UG/L** | **2** | **30** |
| 17-MW-15 | CL-99-01 | Nitrate As N | 2000 | U | 2000 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Nitrite As N | 2500 | U | 2500 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Orthophosphate | 5000 | U | 5000 | U | UG/L | NC | 30 |
| **17-MW-15** | **CL-99-01** | **Solids, Total Dissolved** | **1310000** | | **1330000** | | **UG/L** | **2** | **30** |
| **17-MW-15** | **CL-99-01** | **Sulfate** | **778000** | | **761000** | | **UG/L** | **2** | **30** |
| 17-MW-15 | CL-99-01 | Hexavalent Chromium | 20 | U | 20 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Antimony | 10 | U | 10 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Arsenic | 5 | U | 5 | U | UG/L | NC | 30 |
| **17-MW-15** | **CL-99-01** | **Barium** | **36.2** | | **38.3** | | **UG/L** | **6** | **30** |
| 17-MW-15 | CL-99-01 | Beryllium | 2 | U | 2 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Cadmium | 2 | U | 2 | U | UG/L | NC | 30 |
| **17-MW-15** | **CL-99-01** | **Chromium** | **0.4** | | **0.57** | **J** | **UG/L** | *** 35** | **30** |
| 17-MW-15 | CL-99-01 | Cobalt | 5 | U | 5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Copper | 10 | U | 3.5 | J | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Lead | 5 | U | 5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Mercury | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Molybdenum | 5 | U | 6.3 | | UG/L | NC | 30 |
| **17-MW-15** | **CL-99-01** | **Nickel** | **0.84** | | **1.2** | **J** | **UG/L** | *** 35** | **30** |
| 17-MW-15 | CL-99-01 | Selenium | 10 | U | 10 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Silver | 10 | U | 10 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Thallium | 10 | U | 1.7 | J | UG/L | NC | 30 |
| **17-MW-15** | **CL-99-01** | **Vanadium** | **1.5** | | **1.2** | **J** | **UG/L** | **22** | **30** |
| **17-MW-15** | **CL-99-01** | **Zinc** | **6.6** | | **11.5** | | **UG/L** | *** 54** | **30** |
| 17-MW-15 | CL-99-01 | Diesel Range Organics | 100 | U | 100 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Gasoline Range Organics | 50 | U | 50 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Jet Fuel | 50 | U | 50 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Motor Oil Range Organics | 100 | U | 100 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1,1-Trichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1-Dichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1-Dichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,1-Dichloropropene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2,3-Trichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2,4-Trichlorobenzene | 0.5 | UJ | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2,4-Trimethylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2-Dibromo-3-Chloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2-Dibromoethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2-Dichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2-Dichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,2-Dichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,3,5-Trimethylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,3-Dichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,3-Dichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 1,4-Dichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 2,2-Dichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 2-Butanone (Mek) | 10 | U | 10 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 2-Chlorotoluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 2-Hexanone | 10 | UJ | 10 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 4-Chlorotoluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | 4-Methyl-2-Butanone (Mibk) | 10 | U | 10 | U | UG/L | NC | 30 |
| **17-MW-15** | **CL-99-01** | **Acetone** | **7** | **J** | **5** | **J** | **UG/L** | *** 33** | **30** |
| 17-MW-15 | CL-99-01 | Benzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Bromobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |

**Table B-2: Field Duplicate Results, Crows Landing Ground Water, November 2000**

| Sample ID | Duplicate ID | Analyte | Sample Result | Validation Qualifier | Duplicate Result | Duplicate Qualifier | Units | RPD | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| 17-MW-15 | CL-99-01 | Bromochloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Bromodichloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Bromoform | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Bromomethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Carbon Disulfide | 10 | U | 0.4 | J | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Carbon Tetrachloride | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Chlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Chloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Chloroform | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Chloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Cis-1,2-Dichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Cis-1,3-Dichloropropene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Dibromochloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Dibromomethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Dichlorodifluoromethane | 0.5 | UJ | 0.5 | UJ | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Ethylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Hexachlorobutadiene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Isopropylbenzene (Cumene) | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | MTBE | 5 | U | 5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Methylene Chloride | 3 | U | 1.9 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | N-Butylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | N-Propylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Naphthalene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | P-Isopropyltoluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Sec-Butylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Styrene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Tert-Butylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Tetrachloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Toluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Trans-1,2-Dichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Trans-1,3-Dichloropropene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Trichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Trichlorofluoromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Vinyl Chloride | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 17-MW-15 | CL-99-01 | Xylene (Total) | 1 | U | 1 | U | UG/L | NC | 30 |
| **109-MW-01** | **CL-99-03** | **Alkalinity** | **230000** | | **230000** | | **UG/L** | **0** | **30** |
| **109-MW-01** | **CL-99-03** | **Chloride** | **67000** | | **65000** | | **UG/L** | **3** | **30** |
| **109-MW-01** | **CL-99-03** | **Nitrate As N** | **10000** | | **9500** | | **UG/L** | **5** | **30** |
| 109-MW-01 | CL-99-03 | Nitrite As N | 1000 | U | 1000 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Orthophosphate | 2000 | U | 2000 | U | UG/L | NC | 30 |
| **109-MW-01** | **CL-99-03** | **Solids, Total Dissolved** | **902000** | | **872000** | | **UG/L** | **3** | **30** |
| **109-MW-01** | **CL-99-03** | **Sulfate** | **303000** | | **292000** | | **UG/L** | **4** | **30** |
| **109-MW-01** | **CL-99-03** | **Hexavalent Chromium** | **16** | **J** | **19** | **J** | **UG/L** | **17** | **30** |
| 109-MW-01 | CL-99-03 | Antimony | 10 | U | 10 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Arsenic | 5 | U | 5 | U | UG/L | NC | 30 |
| **109-MW-01** | **CL-99-03** | **Barium** | **25.7** | | **25.8** | | **UG/L** | **0** | **30** |
| 109-MW-01 | CL-99-03 | Beryllium | 0.11 | | 2 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Cadmium | 2 | U | 2 | U | UG/L | NC | 30 |
| **109-MW-01** | **CL-99-03** | **Chromium** | **19.8** | | **20.1** | | **UG/L** | **2** | **30** |
| 109-MW-01 | CL-99-03 | Cobalt | 5 | U | 5 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Copper | 10 | U | 10 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Lead | 5 | U | 5 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Mercury | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Molybdenum | 5 | U | 5 | U | UG/L | NC | 30 |
| **109-MW-01** | **CL-99-03** | **Nickel** | **5.4** | | **4.2** | **J** | **UG/L** | **25** | **30** |
| **109-MW-01** | **CL-99-03** | **Selenium** | **10.5** | | **8** | **J** | **UG/L** | **27** | **30** |
| 109-MW-01 | CL-99-03 | Silver | 10 | U | 10 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Thallium | 10 | U | 1 | J | UG/L | NC | 30 |

**Table B-2: Field Duplicate Results, Crows Landing Ground Water, November 2000**

| Sample ID | Duplicate ID | Analyte | Sample Result | Validation Qualifier | Duplicate Result | Duplicate Qualifier | Units | RPD | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| **109-MW-01** | **CL-99-03** | **Vanadium** | **2.7** | **J** | **2.4** | **J** | **UG/L** | **12** | **30** |
| **109-MW-01** | **CL-99-03** | **Zinc** | **7.7** | | **15.6** | | **UG/L** | *** 68** | **30** |
| 109-MW-01 | CL-99-03 | Diesel Range Organics | 100 | U | 100 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Gasoline Range Organics | 50 | U | 50 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Jet Fuel | 50 | U | 50 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Motor Oil Range Organics | 100 | U | 100 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1,1-Trichloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1,2-Trichloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1-Dichloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1-Dichloroethene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,1-Dichloropropene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2,3-Trichlorobenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2,4-Trichlorobenzene | 0.5 | UJ | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2,4-Trimethylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2-Dibromo-3-Chloropropane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2-Dibromoethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2-Dichlorobenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2-Dichloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,2-Dichloropropane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,3,5-Trimethylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,3-Dichlorobenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,3-Dichloropropane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 1,4-Dichlorobenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 2,2-Dichloropropane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 2-Butanone (Mek) | 10 | U | 10 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 2-Chlorotoluene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 2-Hexanone | 10 | UJ | 10 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 4-Chlorotoluene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | 4-Methyl-2-Butanone (Mibk) | 10 | U | 10 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Acetone | 10 | U | 10 | U | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Benzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Bromobenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Bromochloromethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Bromodichloromethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Bromoform | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Bromomethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Carbon Disulfide | 0.7 | J | 10 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Carbon Tetrachloride | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Chlorobenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Chloroethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Chloroform | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Chloromethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Cis-1,2-Dichloroethene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Cis-1,3-Dichloropropene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Dibromochloromethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Dibromomethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Dichlorodifluoromethane | 0.5 | UJ | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Ethylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Hexachlorobutadiene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Isopropylbenzene (Cumene) | 0.5 | | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Methyl-T-Bytyl Ether (Mtbe) | 5 | U | 5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Methylene Chloride | 2.5 | U | 2.6 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | N-Butylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | N-Propylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Naphthalene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |

**Table B-2: Field Duplicate Results, Crows Landing Ground Water, November 2000**

| Sample ID | Duplicate ID | Analyte | Sample Result | Validation Qualifier | Duplicate Result | Duplicate Qualifier | Units | RPD | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| 109-MW-01 | CL-99-03 | P-Isopropyltoluene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Sec-Butylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Styrene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Tert-Butylbenzene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Tetrachloroethene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Toluene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Trans-1,2-Dichloroethene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Trans-1,3-Dichloropropene | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Trichloroethene | 0.5 | U | 1.6 | J | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Trichlorofluoromethane | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Vinyl Chloride | 0.5 | U | 0.5 | UJ | UG/L | NC | 30 |
| 109-MW-01 | CL-99-03 | Xylene (Total) | 1 | U | 1 | UJ | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Alkalinity** | **210000** | | **210000** | | **UG/L** | **0** | **30** |
| **CL1-MW-09(MS)** | **CL-99-2** | **Chloride** | **110000** | | **110000** | | **UG/L** | **0** | **30** |
| **CL1-MW-09(MS)** | **CL-99-2** | **Nitrate As N** | **9100** | | **8900** | | **UG/L** | **2** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Nitrite As N | 2000 | U | 2000 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Phosphorus, Orthophosphate | 4000 | U | 4000 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Solids, Total Dissolved** | **1220000** | | **1220000** | | **UG/L** | **0** | **30** |
| **CL1-MW-09(MS)** | **CL-99-2** | **Sulfate** | **519000** | | **517000** | | **UG/L** | **0** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Hexavalent Chromium | 20 | U | 20 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Antimony | 10 | U | 10 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Arsenic | 5 | U | 5 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Barium** | **24.3** | | **23.8** | | **UG/L** | **2** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Beryllium | 2 | U | 2 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Cadmium | 2 | U | 2 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Chromium** | **1.3** | | **1.5** | | **UG/L** | **14** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Cobalt | 5 | U | 5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Copper | 10 | U | 10 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Lead | 5 | U | 5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Mercury | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Molybdenum | 5 | U | 5 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Nickel** | **3** | **J** | **3.1** | **J** | **UG/L** | **3** | **30** |
| **CL1-MW-09(MS)** | **CL-99-2** | **Selenium** | **19** | | **17.6** | | **UG/L** | **8** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Silver | 10 | U | 10 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Thallium | 1.7 | U | 10 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Vanadium** | **1.9** | **J** | **2.2** | **J** | **UG/L** | **15** | **30** |
| **CL1-MW-09(MS)** | **CL-99-2** | **Zinc** | **7.1** | **J** | **8** | **J** | **UG/L** | **12** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Diesel Range Organics | 100 | U | 100 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Gasoline Range Organics | 90 | | 90 | | UG/L | 0 | 30 |
| CL1-MW-09(MS) | CL-99-2 | Jet Fuel | 50 | U | 50 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Motor Oil Range Organics | 100 | U | 100 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1,1-Trichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1-Dichloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1-Dichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,1-Dichloropropene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2,3-Trichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2,4-Trichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2,4-Trimethylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2-Dibromo-3-Chloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2-Dibromoethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,2-Dichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **1,2-Dichloroethane** | **1.5** | | **1.5** | | **UG/L** | **0** | **30** |
| CL1-MW-09(MS) | CL-99-2 | 1,2-Dichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,3,5-Trimethylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |

**Table B-2: Field Duplicate Results, Crows Landing Ground Water, November 2000**

| Sample ID | Duplicate ID | Analyte | Sample Result | Validation Qualifier | Duplicate Result | Duplicate Qualifier | Units | RPD | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| CL1-MW-09(MS) | CL-99-2 | 1,3-Dichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,3-Dichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 1,4-Dichlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 2,2-Dichloropropane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 2-Butanone (Mek) | 10 | U | 10 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 2-Chlorotoluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 2-Hexanone | 10 | UJ | 10 | UJ | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 4-Chlorotoluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | 4-Methyl-2-Pentanone | 10 | U | 10 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Acetone | 10 | U | 10 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Benzene** | **9.8** | | **10.3** | | **UG/L** | **5** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Bromobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Bromochloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Bromodichloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Bromoform | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Bromomethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Carbon Disulfide | 10 | U | 10 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Carbon Tetrachloride | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Chlorobenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Chloroethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| **CL1-MW-09(MS)** | **CL-99-2** | **Chloroform** | **3.7** | | **3.8** | | **UG/L** | **3** | **30** |
| CL1-MW-09(MS) | CL-99-2 | Chloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Cis-1,2-Dichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Cis-1,3-Dichloropropene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Dibromochloromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Dibromomethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Dichlorodifluoromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Ethylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Hexachlorobutadiene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Isopropylbenzene (Cumene) | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | MTBE | 5 | U | 5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Methylene Chloride | 1.3 | | 1.2 | | UG/L | 8 | 30 |
| CL1-MW-09(MS) | CL-99-2 | N-Butylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | N-Propylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Naphthalene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | P-Isopropyltoluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Sec-Butylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Styrene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Tert-Butylbenzene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Tetrachloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Toluene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Trans-1,2-Dichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Trans-1,3-Dichloropropene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Trichloroethene | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Trichlorofluoromethane | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Vinyl Chloride | 0.5 | U | 0.5 | U | UG/L | NC | 30 |
| CL1-MW-09(MS) | CL-99-2 | Xylene (Total) | 1 | U | 1 | U | UG/L | NC | 30 |

*U qualifier indicates that the analyte was not detected at the specified reporting limit.*
*ND indicates that the relative percent difference (RPD) was not calculable.*
*J qualifier indicates that the associated numeric value is an estimate.*

# Analytical Report For 7194

## for

## IT Corporation

**Project Manager: Rose Condit**

**Project Name : NASA Crows Landing Flight Facility**

**August 24, 2000**

***GPL***

*Laboratories*

Laboratory Director

Project Manager

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TOTAL # OF PAGES : 46

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# CASE NARRATIVE

**CLIENT:** IT CORPORATION
**PROJECT/SITE:** NASA CROWS LANDING FLIGHT FACILITY
**WORK ORDER(S):** 7194
**REVIEW DATE:** 08/24/00

The Case Narrative, Chain of Custody, Sample Receipt Checklist, and the cover page of the Analytical Report, are integral parts of GPL Laboratories' report package. If you did not receive all of these documents, please contact GPL immediately.

## Sample Receipt

Ten water samples were received on 08/01/2000. The sample was delivered by Federal Express. Several of the sample bottles were received broken, however there were duplicate bottles provided. A sample bottle for DRO analysis on the Rinse Blank was not received. Sample receipt conditions and temperatures are documented on the Sample Receipt Checklist.

## Sample Analysis

Samples were prepared and analyzed by GPL using the analytical methodologies indicated on the Analytical Report of Analysis.

### Volatile Analysis

1. The samples were analyzed for volatile organic using 8260B methodologies.

2. Percent surrogate recoveries of samples 17MW12, 17MW03, CL1-MW-12S and 117-MW-03 were outside established QC limits in the initial analysis. The samples were reanalyzed within holding time.

3. Samples CL1-MW-12s and CL99-1 were diluted in the initial analysis. Further dilutions were performed with these samples to bring the target analytes within the calibration limits. Both initial and final results were submitted with this package.

4. Samples 17MW12 and 17MW03 were diluted in the reanalysis within holding time. Both initial and final results were submitted with this package. For sample 17MW12, data was reported from initial analysis due to over dilution of the re-analysis.

5. The matrix spike and matrix spike duplicate analyses were performed on sample 117-MW-01. Percent recovery of chlorobenzene was outside QC limits in the MS analysis. Percent RPD of chlorobenzene was outside QC limit as well.

6. Linearity was not achievable for acetone in the initial calibration curve report, 86_25W14.M. The lowest calibration level reported for acetone was 2 ug/L.

7. A 0.5ug/L standard was ran on August 03, 2000, file number E21307.D, after the continuing calibration. The quantitation report was submitted with this package.

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# CASE NARRATIVE

**CLIENT:** IT CORPORATION
**PROJECT/SITE:** NASA CROWS LANDING FLIGHT FACILITY
**WORK ORDER(S):** 7194
**REVIEW DATE:** 08/24/00

## TPH-DRO

1. Eight water samples were extracted and analyzed for Diesel Range Organics using method 8015.

2. A portion of the sample extract for 17MW03 was lost during the extraction process due to a laboratory accident. The loss occurred prior to bringing the extract to final volume.

3. MS/MSD was performed on sample 117-MW-01. A laboratory control sample (LCS) was extracted and analyzed with the samples.

4. Surrogate recovery for sample 117-MW01 was outside QC limits. Also there was no surrogate recoveries for diluted samples CL1-MW-12S and CL99-1.

5. Continuing Calibration M03483 had Terphenyl-d14 recovery outside QC limits.

6. All other analyses met QC criteria.

## TPH- GRO

1. Nine water samples were received and analyzed for Gasoline Range Organics using EPA modified method 8015M.

2. Matrix spike and duplicate analyses were performed on sample 117-MW-01. All recoveries were within QC limits.

3. Surrogate recoveries were within QC limits.

4. Due to high level of target compounds the following samples were run at dilution x200, CL-MW-12S and CL99-1.

5. Due to carry over from previous samples, the following samples were rerun on 8/11/00 outside holding time; 17MW03, RINSE BLANK and 117-MW-03. Both results were submitted. Data were reported from the initial analysis for samples 17MW03 and 117-MW-03. Data was reported from the reanalysis for sample RINSE BLANK.

6. Two laboratory control samples (LCS) were submitted with this package.

Project Manager

Lab Director

## Summary of Analytical Results

Client ID CL1-MW-05
GPL ID: 7194-001-02-2/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 14:37
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | BQL | 5 | ug/L | U | 1 |
| Benzene | BQL | 0.5 | ug/L | U | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | BQL | 0.5 | ug/L | U | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | BQL | 0.5 | ug/L | U | 1 |
| Carbon Tetrachloride | BQL | 0.5 | ug/L | U | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | BQL | 0.5 | ug/L | U | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID CL1-MW-05
GPL ID: 7194-001-02-2/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 14:37
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Ethylene DiBromide | BQL | 0.5 | ug/L | U | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | BQL | 0.5 | ug/L | U | 1 |
| MEK | BQL | 5 | ug/L | U | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | 0.550 | 0.5 | ug/L | | 1 |
| Naphthalene | BQL | 0.5 | ug/L | U | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | BQL | 0.5 | ug/L | U | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | BQL | 0.5 | ug/L | U | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | BQL | 0.5 | ug/L | U | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID CL1-MW-05
GPL ID: 7194-001-04-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 16:29
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 129 | 100 | ug/L | | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement Pg
0006

## Summary of Analytical Results

Client ID CL1-MW-05
GPL ID: 7194-001-06-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-07-2000
Time Analyzed 11:37
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 0.05 | mg/L | U | 1 |
| TPH-DRO (Diesel Range Organics) | 0.290 | 0.05 | mg/L | | 1 |

## Summary of Analytical Results

Client ID 117-MW-01
GPL ID: 7194-002-01-1/5
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 12:23
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | BQL | 5 | ug/L | U | 1 |
| Benzene | BQL | 0.5 | ug/L | U | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | BQL | 0.5 | ug/L | U | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | BQL | 0.5 | ug/L | U | 1 |
| Carbon Tetrachloride | 1.06 | 0.5 | ug/L | | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | BQL | 0.5 | ug/L | U | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |



0 8

## Summary of Analytical Results

Client ID 117-MW-01
GPL ID: 7194-002-01-1/5
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 12:23
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Ethylene DiBromide | BQL | 0.5 | ug/L | U | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | BQL | 0.5 | ug/L | U | 1 |
| MEK | BQL | 5 | ug/L | U | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | 0.570 | 0.5 | ug/L | | 1 |
| Naphthalene | BQL | 0.5 | ug/L | U | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | BQL | 0.5 | ug/L | U | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | BQL | 0.5 | ug/L | U | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | BQL | 0.5 | ug/L | U | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID 117-MW-01
GPL ID: 7194-002-06-1/4
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 17:05
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | BQL | 100 | ug/L | U | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement Pg
00010

## Summary of Analytical Results

Client ID 117-MW-01
GPL ID: 7194-002-10-1/4
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-07-2000
Time Analyzed 12:25
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 0.051 | mg/L | U | 1 |
| TPH-DRO (Diesel Range Organics) | 0.072 | 0.051 | mg/L | | 1 |

## Summary of Analytical Results

Client ID CL1-MW-10S
GPL ID: 7194-003-01-1/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 14:05
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | BQL | 5 | ug/L | U | 1 |
| Benzene | 16.5 | 0.5 | ug/L | | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | BQL | 0.5 | ug/L | U | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | BQL | 0.5 | ug/L | U | 1 |
| Carbon Tetrachloride | BQL | 0.5 | ug/L | U | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | BQL | 0.5 | ug/L | U | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID CL1-MW-10S
GPL ID: 7194-003-01-1/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 14:05
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Ethylene DiBromide | BQL | 0.5 | ug/L | U | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | BQL | 0.5 | ug/L | U | 1 |
| MEK | BQL | 5 | ug/L | U | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | 0.500 | 0.5 | ug/L | | 1 |
| Naphthalene | BQL | 0.5 | ug/L | U | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | BQL | 0.5 | ug/L | U | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | BQL | 0.5 | ug/L | U | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | BQL | 0.5 | ug/L | U | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID CL1-MW-10S
GPL ID: 7194-003-05-2/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 18:51
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 161 | 100 | ug/L | | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement p.
00014

## Summary of Analytical Results

Client ID CL1-MW-10S
GPL ID: 7194-003-06-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-07-2000
Time Analyzed 14:50
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 0.052 | mg/L | U | 1 |
| TPH-DRO (Diesel Range Organics) | 0.287 | 0.052 | mg/L | | 1 |

## Summary of Analytical Results

Client ID CL1-MW-12SDL
GPL ID: 7194-004-02-2/3 DL 100X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 15:11
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1,1-Trichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1,2,2-Tetrachloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1,2-Trichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1-Dichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1-Dichloroethene | BQL | 50 | ug/L | U | 100 |
| 1,1-Dichloropropene | BQL | 50 | ug/L | U | 100 |
| 1,2,3-Trichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,2,3-Trichloropropane | BQL | 50 | ug/L | U | 100 |
| 1,2,4-Trichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,2,4-Trimethylbenzene | BQL | 50 | ug/L | U | 100 |
| 1,2-Dibromo-3-Chloropropane | BQL | 50 | ug/L | U | 100 |
| 1,2-Dichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,2-Dichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,2-Dichloropropane | BQL | 50 | ug/L | U | 100 |
| 1,3,5-trimethylbenzene | BQL | 50 | ug/L | U | 100 |
| 1,3-Dichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,3-Dichloropropane | BQL | 50 | ug/L | U | 100 |
| 1,4-Dichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 2,2-Dichloropropane | BQL | 50 | ug/L | U | 100 |
| 2-Chlorotoluene | BQL | 50 | ug/L | U | 100 |
| 4-Chlorotoluene | BQL | 50 | ug/L | U | 100 |
| 4-Isopropyltoluene | BQL | 50 | ug/L | U | 100 |
| 4-Methyl-2-Pentanone | 3560 | 500 | ug/L | | 100 |
| Bromobenzene | BQL | 50 | ug/L | U | 100 |
| Bromochloromethane | BQL | 50 | ug/L | U | 100 |
| Bromodichloromethane | BQL | 50 | ug/L | U | 100 |
| Bromoform | BQL | 50 | ug/L | U | 100 |
| Bromomethane | BQL | 50 | ug/L | U | 100 |
| Carbon Disulfide | BQL | 50 | ug/L | U | 100 |
| Carbon Tetrachloride | BQL | 50 | ug/L | U | 100 |
| Chlorobenzene | BQL | 50 | ug/L | U | 100 |
| Chloroethane | BQL | 50 | ug/L | U | 100 |
| Chloroform | BQL | 50 | ug/L | U | 100 |
| Chloromethane | BQL | 50 | ug/L | U | 100 |
| Dibromochloromethane | BQL | 50 | ug/L | U | 100 |
| Dibromomethane | BQL | 50 | ug/L | U | 100 |
| Dichlorodifluoromethane | BQL | 50 | ug/L | U | 100 |
| Ethylbenzene | 314 | 50 | ug/L | | 100 |

## Summary of Analytical Results

Client ID CL1-MW-12SDL
GPL ID: 7194-004-02-2/3 DL 100X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 15:11
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Ethylene DiBromide | 5080 | 50 | ug/L | | 100 |
| Hexachlorobutadiene | BQL | 50 | ug/L | U | 100 |
| Isopropylbenzene | 1480 | 50 | ug/L | | 100 |
| MTBE | BQL | 50 | ug/L | U | 100 |
| Methylene Chloride | 56.0 | 50 | ug/L | | 100 |
| Naphthalene | 97.0 | 50 | ug/L | | 100 |
| Sec-Butylbenzene | BQL | 50 | ug/L | U | 100 |
| Styrene | BQL | 50 | ug/L | U | 100 |
| Tetrachloroethylene | BQL | 50 | ug/L | U | 100 |
| Toluene | 5540 | 50 | ug/L | | 100 |
| Trichloroethene | BQL | 50 | ug/L | U | 100 |
| Trichlorofluoromethane | BQL | 50 | ug/L | U | 100 |
| Vinyl Chloride | BQL | 50 | ug/L | U | 100 |
| cis-1,2-Dichloroethene | BQL | 50 | ug/L | U | 100 |
| m,p-Xylenes | 387 | 50 | ug/L | | 100 |
| n-Butylbenzene | BQL | 50 | ug/L | U | 100 |
| n-Propylbenzene | BQL | 50 | ug/L | U | 100 |
| o-Xylene | 517 | 50 | ug/L | | 100 |
| tert-Butylbenzene | BQL | 50 | ug/L | U | 100 |
| trans-1,2-dichloroethene | BQL | 50 | ug/L | U | 100 |

## Summary of Analytical Results

Client ID CL1-MW-12SDL2
GPL ID: 7194-004-03-3/3 DL 2500X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-07-2000
Prep Time: 07:08
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-07-2000
Time Analyzed 10:11
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Acetone | 68400 | 12500 | ug/L | | 2500 |
| Benzene | 22400 | 1250 | ug/L | | 2500 |
| MEK | 75400 | 12500 | ug/L | | 2500 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID CL1-MW-12S
GPL ID: 7194-004-04-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 19:28
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 220000 | 20000 | ug/L | | 200 |
| Total Unknown | BQL | 20000 | ug/L | U | 200 |



Replacement Pg
00019

## Summary of Analytical Results

Client ID CL1-MW-12S
GPL ID: 7194-004-06-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-16-2000
Time Analyzed 08:32
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 51.5 | mg/L | U | 1000 |
| TPH-DRO (Diesel Range Organics) | 389 | 51.5 | mg/L | | 1000 |

## Summary of Analytical Results

Client ID CL99-1DL
GPL ID: 7194-005-02-2/3 DL 100X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 15:45
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1,1-Trichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1,2,2-Tetrachloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1,2-Trichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1-Dichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,1-Dichloroethene | BQL | 50 | ug/L | U | 100 |
| 1,1-Dichloropropene | BQL | 50 | ug/L | U | 100 |
| 1,2,3-Trichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,2,3-Trichloropropane | BQL | 50 | ug/L | U | 100 |
| 1,2,4-Trichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,2,4-Trimethylbenzene | BQL | 50 | ug/L | U | 100 |
| 1,2-Dibromo-3-Chloropropane | BQL | 50 | ug/L | U | 100 |
| 1,2-Dichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,2-Dichloroethane | BQL | 50 | ug/L | U | 100 |
| 1,2-Dichloropropane | BQL | 50 | ug/L | U | 100 |
| 1,3,5-trimethylbenzene | BQL | 50 | ug/L | U | 100 |
| 1,3-Dichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 1,3-Dichloropropane | BQL | 50 | ug/L | U | 100 |
| 1,4-Dichlorobenzene | BQL | 50 | ug/L | U | 100 |
| 2,2-Dichloropropane | BQL | 50 | ug/L | U | 100 |
| 2-Chlorotoluene | BQL | 50 | ug/L | U | 100 |
| 2-Hexanone | 4810 | 500 | ug/L | | 100 |
| 4-Chlorotoluene | BQL | 50 | ug/L | U | 100 |
| 4-Isopropyltoluene | BQL | 50 | ug/L | U | 100 |
| 4-Methyl-2-Pentanone | 2270 | 500 | ug/L | | 100 |
| Bromobenzene | BQL | 50 | ug/L | U | 100 |
| Bromochloromethane | BQL | 50 | ug/L | U | 100 |
| Bromodichloromethane | BQL | 50 | ug/L | U | 100 |
| Bromoform | BQL | 50 | ug/L | U | 100 |
| Bromomethane | BQL | 50 | ug/L | U | 100 |
| Carbon Disulfide | BQL | 50 | ug/L | U | 100 |
| Carbon Tetrachloride | BQL | 50 | ug/L | U | 100 |
| Chlorobenzene | BQL | 50 | ug/L | U | 100 |
| Chloroethane | BQL | 50 | ug/L | U | 100 |
| Chloroform | BQL | 50 | ug/L | U | 100 |
| Chloromethane | BQL | 50 | ug/L | U | 100 |
| Dibromochloromethane | BQL | 50 | ug/L | U | 100 |
| Dibromomethane | BQL | 50 | ug/L | U | 100 |
| Dichlorodifluoromethane | BQL | 50 | ug/L | U | 100 |

## Summary of Analytical Results

Client ID CL99-1DL
GPL ID: 7194-005-02-2/3 DL 100X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 15:45
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Ethylbenzene | 280 | 50 | ug/L | | 100 |
| Ethylene DiBromide | 4000 | 50 | ug/L | | 100 |
| Hexachlorobutadiene | BQL | 50 | ug/L | U | 100 |
| Isopropylbenzene | 1400 | 50 | ug/L | | 100 |
| MTBE | BQL | 50 | ug/L | U | 100 |
| Methylene Chloride | 52.0 | 50 | ug/L | | 100 |
| Naphthalene | 64.0 | 50 | ug/L | | 100 |
| Sec-Butylbenzene | BQL | 50 | ug/L | U | 100 |
| Styrene | BQL | 50 | ug/L | U | 100 |
| Tetrachloroethylene | BQL | 50 | ug/L | U | 100 |
| Toluene | 4840 | 50 | ug/L | | 100 |
| Trichloroethene | BQL | 50 | ug/L | U | 100 |
| Trichlorofluoromethane | BQL | 50 | ug/L | U | 100 |
| Vinyl Chloride | BQL | 50 | ug/L | U | 100 |
| cis-1,2-Dichloroethene | BQL | 50 | ug/L | U | 100 |
| m,p-Xylenes | 310 | 50 | ug/L | | 100 |
| n-Butylbenzene | BQL | 50 | ug/L | U | 100 |
| n-Propylbenzene | BQL | 50 | ug/L | U | 100 |
| o-Xylene | 480 | 50 | ug/L | | 100 |
| tert-Butylbenzene | BQL | 50 | ug/L | U | 100 |
| trans-1,2-dichloroethene | BQL | 50 | ug/L | U | 100 |

## Summary of Analytical Results

Client ID CL99-1DL2
GPL ID: 7194-005-03-3/3 DL 2500X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-07-2000
Prep Time: 07:08
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-07-2000
Time Analyzed 11:19
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Acetone | 59600 | 12500 | ug/L | | 2500 |
| Benzene | 20200 | 1250 | ug/L | | 2500 |
| MEK | 70400 | 12500 | ug/L | | 2500 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID CL99-1
GPL ID: 7194-005-04-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 20:03
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 256000 | 20000 | ug/L | | 200 |
| Total Unknown | BQL | 20000 | ug/L | U | 200 |



Replacement pg
00024

## Summary of Analytical Results

Client ID CL99-1
GPL ID: 7194-005-06-1/1
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-16-2000
Time Analyzed 09:21
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 52.1 | mg/L | U | 1000 |
| TPH-DRO (Diesel Range Organics) | 325 | 52.1 | mg/L | | 1000 |

## Summary of Analytical Results

Client ID 17MW12
GPL ID: 7194-006-01-1/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 15:50
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | 8.22 | 0.5 | ug/L | | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | 614 | 5 | ug/L | | 1 |
| Benzene | 104 | 0.5 | ug/L | | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | BQL | 0.5 | ug/L | U | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | 0.590 | 0.5 | ug/L | | 1 |
| Carbon Tetrachloride | BQL | 0.5 | ug/L | U | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | 13.7 | 0.5 | ug/L | | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID 17MW12
GPL ID: 7194-006-01-1/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 15:50
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | 1.25 | 0.5 | ug/L | | 1 |
| Ethylene DiBromide | 15.6 | 0.5 | ug/L | | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | 4.74 | 0.5 | ug/L | | 1 |
| MEK | 746 | 5 | ug/L | | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | 1.01 | 0.5 | ug/L | | 1 |
| Naphthalene | 1.60 | 0.5 | ug/L | | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | 24.1 | 0.5 | ug/L | | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | 1.86 | 0.5 | ug/L | | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | 2.14 | 0.5 | ug/L | | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

# Summary of Analytical Results

Client ID 17MW12
GPL ID: 7194-006-04-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 20:38
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 362 | 100 | ug/L | | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement Page
00028

## Summary of Analytical Results

Client ID 17MW12
GPL ID: 7194-006-06-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-07-2000
Time Analyzed 17:15
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 0.052 | mg/L | U | 1 |
| TPH-DRO (Diesel Range Organics) | 0.501 | 0.052 | mg/L | | 1 |

## Summary of Analytical Results

Client ID 17MW03
GPL ID: 7194-007-01-1/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 16:24
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | 14.3 | 5 | ug/L | | 1 |
| Benzene | 42.2 | 0.5 | ug/L | | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | 0.650 | 0.5 | ug/L | | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | 0.560 | 0.5 | ug/L | | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | 13.7 | 0.5 | ug/L | | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID 17MW03
GPL ID: 7194-007-01-1/3
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 16:24
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | 1.10 | 0.5 | ug/L | | 1 |
| Ethylene DiBromide | 7.58 | 0.5 | ug/L | | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | 4.50 | 0.5 | ug/L | | 1 |
| MEK | BQL | 5 | ug/L | U | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | 0.580 | 0.5 | ug/L | | 1 |
| Naphthalene | 0.520 | 0.5 | ug/L | | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | 18.3 | 0.5 | ug/L | | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | 2.19 | 0.5 | ug/L | | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | 1.87 | 0.5 | ug/L | | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID 17MW03DL
GPL ID: 7194-007-02-2/3 DL 5X
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-04-2000
Prep Time: 07:39
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-04-2000
Time Analyzed 16:52
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Carbon Tetrachloride | 131 | 2.5 | ug/L | | 5 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID 17MW03
GPL ID: 7194-007-04-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 21:51
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 303 | 100 | ug/L | | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement page
00033

## Summary of Analytical Results

Client ID 17MW03
GPL ID: 7194-007-06-1/1
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-07-2000
Time Analyzed 18:51
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 0.05 | mg/L | U | 1 |
| TPH-DRO (Diesel Range Organics) | 0.389 | 0.05 | mg/L | | 1 |

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID RINSE BLANK
GPL ID: 7194-008-04-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-11-2000
Time Analyzed 18:11
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | BQL | 100 | ug/L | U | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement Pg
000385

## Summary of Analytical Results

Client ID 117-MW-03RE
GPL ID: 7194-009-02-2/3 RE
Matrix: Water
Date Collected: Jul-28-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-07-2000
Prep Time: 07:08
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-07-2000
Time Analyzed 12:27
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | BQL | 5 | ug/L | U | 1 |
| Benzene | 19.4 | 0.5 | ug/L | | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | BQL | 0.5 | ug/L | U | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | BQL | 0.5 | ug/L | U | 1 |
| Carbon Tetrachloride | 1.26 | 0.5 | ug/L | | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | 4.43 | 0.5 | ug/L | | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID 117-MW-03RE
GPL ID: 7194-009-02-2/3 RE
Matrix: Water
Date Collected: Jul-28-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-07-2000
Prep Time: 07:08
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-07-2000
Time Analyzed 12:27
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | 1.01 | 0.5 | ug/L | | 1 |
| Ethylene DiBromide | 2.65 | 0.5 | ug/L | | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | 4.34 | 0.5 | ug/L | | 1 |
| MEK | BQL | 5 | ug/L | U | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | BQL | 0.5 | ug/L | U | 1 |
| Naphthalene | BQL | 0.5 | ug/L | U | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | 9.84 | 0.5 | ug/L | | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | 2.41 | 0.5 | ug/L | | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | 1.69 | 0.5 | ug/L | | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID 117-MW-03
GPL ID: 7194-009-04-1/2
Matrix: Water
Date Collected: Jul-28-2000
Date Received: Aug-01-2000

Prep Method: SW5030B
Prep Date: Aug-17-2000
Prep Time: 13:50
Prep Chemist: Roy Colleton

Analytical Method: SW8015GRO
Date Analyzed: Aug-08-2000
Time Analyzed 23:04
Analyst: Roy Colleton

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | 262 | 100 | ug/L | | 1 |
| Total Unknown | BQL | 100 | ug/L | U | 1 |



Replacement pg
00038

# GPL LABORATORIES, LLLP

## Summary of Analytical Results

Client ID 117-MW-03
GPL ID: 7194-009-06-1/2
Matrix: Water
Date Collected: Jul-28-2000
Date Received: Aug-01-2000

Prep Method: SW3520C
Prep Date: Aug-02-2000
Prep Time: 18:46
Prep Chemist: Reynaldo Caraan

Analytical Method: SW8015DRO
Date Analyzed: Aug-07-2000
Time Analyzed 19:40
Analyst: Philipos Yosief

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Motor Oil | BQL | 0.05 | mg/L | U | 1 |
| TPH-DRO (Diesel Range Organics) | 0.275 | 0.05 | mg/L | | 1 |

## Summary of Analytical Results

Client ID TRIP BLANK
GPL ID: 7194-010-01-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 11:16
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,1-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2,2-Tetrachloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1,2-Trichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| 1,1-Dichloropropene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,3-Trichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2,4-Trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dibromo-3-Chloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloroethane | BQL | 0.5 | ug/L | U | 1 |
| 1,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,3,5-trimethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 1,3-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 1,4-Dichlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| 2,2-Dichloropropane | BQL | 0.5 | ug/L | U | 1 |
| 2-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 2-Hexanone | BQL | 5 | ug/L | U | 1 |
| 4-Chlorotoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Isopropyltoluene | BQL | 0.5 | ug/L | U | 1 |
| 4-Methyl-2-Pentanone | BQL | 5 | ug/L | U | 1 |
| Acetone | BQL | 5 | ug/L | U | 1 |
| Benzene | BQL | 0.5 | ug/L | U | 1 |
| Bromobenzene | BQL | 0.5 | ug/L | U | 1 |
| Bromochloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromodichloromethane | BQL | 0.5 | ug/L | U | 1 |
| Bromoform | BQL | 0.5 | ug/L | U | 1 |
| Bromomethane | BQL | 0.5 | ug/L | U | 1 |
| Carbon Disulfide | 0.930 | 0.5 | ug/L | | 1 |
| Carbon Tetrachloride | BQL | 0.5 | ug/L | U | 1 |
| Chlorobenzene | BQL | 0.5 | ug/L | U | 1 |
| Chloroethane | BQL | 0.5 | ug/L | U | 1 |
| Chloroform | BQL | 0.5 | ug/L | U | 1 |
| Chloromethane | BQL | 0.5 | ug/L | U | 1 |
| Dibromochloromethane | BQL | 0.5 | ug/L | U | 1 |

## Summary of Analytical Results

Client ID TRIP BLANK
GPL ID: 7194-010-01-1/2
Matrix: Water
Date Collected: Jul-27-2000
Date Received: Aug-01-2000

Prep Method: SW5030LL
Prep Date: Aug-03-2000
Prep Time: 07:05
Prep Chemist: Jannina S. Bryan

Analytical Method: SW8260LL_TCL
Date Analyzed: Aug-03-2000
Time Analyzed 11:16
Analyst: Alganesh Debesai

| Parameter | Result | Rep Limit | Units | Qualifier | D.F. |
|---|---|---|---|---|---|
| Dibromomethane | BQL | 0.5 | ug/L | U | 1 |
| Dichlorodifluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Ethylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Ethylene DiBromide | BQL | 0.5 | ug/L | U | 1 |
| Hexachlorobutadiene | BQL | 0.5 | ug/L | U | 1 |
| Isopropylbenzene | BQL | 0.5 | ug/L | U | 1 |
| MEK | BQL | 5 | ug/L | U | 1 |
| MTBE | BQL | 0.5 | ug/L | U | 1 |
| Methylene Chloride | 0.990 | 0.5 | ug/L | | 1 |
| Naphthalene | BQL | 0.5 | ug/L | U | 1 |
| Sec-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| Styrene | BQL | 0.5 | ug/L | U | 1 |
| Tetrachloroethylene | BQL | 0.5 | ug/L | U | 1 |
| Toluene | BQL | 0.5 | ug/L | U | 1 |
| Trichloroethene | BQL | 0.5 | ug/L | U | 1 |
| Trichlorofluoromethane | BQL | 0.5 | ug/L | U | 1 |
| Vinyl Chloride | BQL | 0.5 | ug/L | U | 1 |
| cis-1,2-Dichloroethene | BQL | 0.5 | ug/L | U | 1 |
| m,p-Xylenes | BQL | 0.5 | ug/L | U | 1 |
| n-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| n-Propylbenzene | BQL | 0.5 | ug/L | U | 1 |
| o-Xylene | BQL | 0.5 | ug/L | U | 1 |
| tert-Butylbenzene | BQL | 0.5 | ug/L | U | 1 |
| trans-1,2-dichloroethene | BQL | 0.5 | ug/L | U | 1 |

# GPL LABORATORIES, LLP
# ANALYTICAL RESULTS

**Project Name : NASA Crows Landing Flight Facility**

| GPL ID | Client ID |
|---|---|
| 7194-001-02-2/3 | CL1-MW-05 |
| 7194-001-04-1/2 | CL1-MW-05 |
| 7194-001-06-1/2 | CL1-MW-05 |
| 7194-002-01-1/5 | 117-MW-01 |
| 7194-002-06-1/4 | 117-MW-01 |
| 7194-002-10-1/4 | 117-MW-01 |
| 7194-003-01-1/3 | CL1-MW-10S |
| 7194-003-05-2/2 | CL1-MW-10S |
| 7194-003-06-1/2 | CL1-MW-10S |
| 7194-004-02-2/3 DL 100X | CL1-MW-12SDL |
| 7194-004-03-3/3 DL 2500X | CL1-MW-12SDL2 |
| 7194-004-04-1/2 | CL1-MW-12S |
| 7194-004-06-1/2 | CL1-MW-12S |
| 7194-005-02-2/3 DL 100X | CL99-1DL |
| 7194-005-03-3/3 DL 2500X | CL99-1DL2 |
| 7194-005-04-1/2 | CL99-1 |
| 7194-005-06-1/1 | CL99-1 |
| 7194-006-01-1/3 | 17MW12 |
| 7194-006-04-1/2 | 17MW12 |
| 7194-006-06-1/2 | 17MW12 |
| 7194-007-01-1/3 | 17MW03 |
| 7194-007-02-2/3 DL 5X | 17MW03DL |
| 7194-007-04-1/2 | 17MW03 |
| 7194-007-06-1/1 | 17MW03 |
| 7194-008-04-1/2 | RINSE BLANK |
| 7194-009-02-2/3 RE | 117-MW-03RE |
| 7194-009-04-1/2 | 117-MW-03 |
| 7194-009-06-1/2 | 117-MW-03 |
| 7194-010-01-1/2 | TRIP BLANK |

# *GPL LABORATORIES, LLLP*

**Possible notes and definitions for this report:**

| | |
|---|---|
| BQL | = Below Quantitation Limit |
| J | = Value is less than the reporting limits but greater than the MDL |
| P | = Indicates that there is greater than 25% difference for detected pesticide/Aroclor results between the two GC columns |
| B | = Indicates that the compound was found in the associated blank |
| E | = Indicates that the concentration exceeded the calibration range of the instrument |
| U | = Indicates that the compound was analyzed for but not detected, number indicates the reporting limit |
| D | = Indicates that the compound was found in an analysis at a secondary dilution factor |
| • | = Value obtained from a 1:5 dilution |
| + | = Value obtained from a 1:10 dilution |
| # | = Value obtained from a 1:20 dilution |
| = | = Value obtained from a 1:25 dilution |
| ^ | = Value obtained from a 1:50 dilution |
| ~ | = Value obtained from a 1:100 dilution |
| ! | = Value obtained from a 1:250 dilution |
| @ | = Value obtained from a 1:125 dilution (medium level) |
| $ | = Value obtained from a 1:500 dilution |
| & | = Value obtained from a 1:1000 dilution |
| N | = Flashpoint not observed; heated to specified limit |
| R | = Flammable at room temperature |
| TNTC | = Too numerous to count |
| B.P. | = Detection limit taken from boiling point |
| F.F. | = Sample gave off flammable fumes |

Project 3113

the IT group

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document 574007
Page 1 of 2

Project Name/No. 1 Crows Landing 800063
Sample Team Members 2 R. Condit
Profit Center No. 3
Project Manager 4 B. Hulet
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 ~~7/27~~ 7/28/00
Lab Destination 8 GPL
Lab Contact 9 Bill Lock
Project Contact/Phone 12 R. Condit 925-288-2157
Carrier/Waybill No. 13

Bill to: 5 IT-Concord
4005 Port Chicago Hwy
Concord CA
94520

Report to: 10 IT-Concord
Attn: 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 |
|---|---|---|---|---|---|---|---|---|
| CL1-MW-05 | Groundwater | 7/27/00 1005 | | 5 VOA 2 Liters | HCL None | VOC-8260 + MTBE TPH-Gas + J.F TPH-Diesel + Motor Oil | | |
| 117-MW-01 | Monitoring | 1217 | | 4 Liters 9 VOA | | | X MS/MSD | FOR LAB USE ONLY |
| CL1-MW-10S | | ← | 1643 | 5 VOA 2 liter | | | | |
| CL1 MW-12S | | ← | 1740 | | | | | |
| CL99-1 | | ← | 1745 | | | | | |
| 17MW12 | | ← | 1533 | | | | | |
| 17 MW 03 | | 1900 | | | | | | |
| Rinse Blank | | 7/27/00 1045 | | | | | | |

Special Instructions: 23 Level IV Data Package

Possible Hazard Identification: 24
Non-hazard [X] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ]

Sample Disposal: 25
Return to Client [ ] Disposal by Lab [X] Archive _____ (mos.)

Turnaround Time Required: 26
Normal [X] Rush [ ]

QC Level: 27
I. [ ] II. [ ] III. [X] Project Specific (specify):

| | |
|---|---|
| 1. Relinquished by 28 (Signature/Affiliation) [signature] Date: 7/28/00 Time: | 1. Received by 28 (Signature/Affiliation) Fed Ex Date: 7/28/00 Time: |
| 2. Relinquished by (Signature/Affiliation) Date: Time: | 2. Received by (Signature/Affiliation) Date: Time: |
| 3. Relinquished by (Signature/Affiliation) Date: Time: | 3. Received by (Signature/Affiliation) Date: Time: |

Comments: 29 Use 117-MW-01 for MS/MSD

MCA 3/15/91

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

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No. 574007
Page 2 of 2

Project Name Crows Landing 800063

Project No. 800063

Samples Shipment Date 7/28/00

**ONE CONTAINER PER LINE**

| Sample Number 14 | Sample Description/Type 15 | Date/Time Collected 16 | Container Type 17 | Sample Volume 18 | Preservative 19 | Requested Testing Program 20 | Condition on Receipt 21 | Disposal Record No. 22 |
|---|---|---|---|---|---|---|---|---|
| 117-MW-03 | | 7/28/00 2000 | 2L 5VOA | | None HCL | VOC 8260 + MTBE Diesel + Motor Oil GAS + Jet Fuel by 8015 | | |
| Triplank | | | VOA | | HCL | VOC 8260 TPH GAS + Jet Fuel | | |

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

00 045

MCA 3/15/91

APCL

Applied Physics & Chemistry Laboratory

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

December 7, 2000

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

Dear Rose,

This package contains samples in our Service ID 00-5616 and your project 800063 Crows Landing. Enclosed please find:

(1) Original report.
(2) Oringinal Chain of Custody.
(3) One original and one copy of Level D Data Package 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 #: 801-005616
Collected by: RC/BS/NM
Collected on: 11/07-08/00

Received: 11/09/00
Extracted: 11/10/00
Tested: 11/09-14/00
Revised: 01/11/01

Sample Description: Ground Water
Project Description: 800063 Crows Landing

## Analysis of Water Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-01 00-05616-1 | 17-MW-02 00-05616-3 | 17-MW-08 00-05616-6 |
|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 57 | 160 | 100 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 1,330 | 686 | 1,300 |
| Dilution Factor | | | | 50 | 20 | 50 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 51 | 60 | 60 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | <2 | 21.4 | 34 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <2.5 | <1 | <2.5 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <5 | <2 | <5 |
| **SULFATE** | 9056 | mg/L | 0.5 | 761 | 160 | 616 |
| **TTLC 17 METALS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ANTIMONY | 6010B | µg/L | 10 | <10 | <10 | 4.7J |
| ARSENIC | 6010B | µg/L | 5 | <5 | <5 | <5 |
| BARIUM | 6010B | µg/L | 10 | 38.3 | 45.3 | 16.5 |
| BERYLLIUM | 6010B | µg/L | 2 | <2 | <2 | <2 |
| CADMIUM | 6010B | µg/L | 2 | <2 | <2 | <2 |
| CHROMIUM | 6010B | µg/L | 5 | 0.57J | 22.4 | 23.6 |
| COBALT | 6010B | µg/L | 5 | <5 | <5 | <5 |
| COPPER | 6010B | µg/L | 10 | 3.5J | 2.8J | 2.2J |
| LEAD | 6010B | µg/L | 5 | <5 | <5 | <5 |
| MERCURY | 7470A | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| MOLYBDENUM | 6010B | µg/L | 5 | 6.3 | 5.0J | 4.0J |
| NICKEL | 6010B | µg/L | 5 | 1.2J | 3.9J | 5.7 |
| SELENIUM | 6010B | µg/L | 10 | <10 | 21.1 | 34.5 |
| SILVER | 6010B | µg/L | 10 | <10 | <10 | <10 |
| THALLIUM | 6010B | µg/L | 10 | 1.7J | <10 | 1.1J |
| VANADIUM | 6010B | µg/L | 10 | 1.2J | 4.3J | 2.0J |
| ZINC | 6010B | µg/L | 10 | 11.5 | 16.9 | 16.3 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | <0.05 | 0.02J | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 [a] | <0.1 [a] | <0.1 [a] |
| Dilution Factor | | | | 1 | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 | <0.1 | <0.1 |

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 CL-99-01 00-05616-1 | 17-MW-02 00-05616-3 | 17-MW-08 00-05616-6 |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Dilution Factor | | | | 1 | 2 | 1 |
| ACETONE | 8260B | µg/L | 10 | 5J | <20 | <10 |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | 3.0 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <20 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | 0.4J | <20 | <10 |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | 93 | 1.4 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | 1 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | 15 | <0.5 |
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | 0.9J | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <1 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-01 00-05616-1 | 17-MW-02 00-05616-3 | 17-MW-08 00-05616-6 |
|---|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 2-HEXANONE | 8260B | μg/L | 10 | <10 | <20 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| METHYLENE CHLORIDE | 8260B | μg/L | 0.5 | 1.9 | 0.7J | 1.6 |
| 4-METHYL-2-BUTANONE (MIBK) | 8260B | μg/L | 10 | <10 | <20 | <10 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | μg/L | 5 | <5 | <10 | <5 |
| NAPHTHALENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| N-PROPYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| STYRENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| TETRACHLOROETHENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| TOLUENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| TRICHLOROETHENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| VINYL CHLORIDE | 8260B | μg/L | 0.5 | <0.5 | <1 | <0.5 |
| XYLENE (TOTAL) | 8260B | μg/L | 1 | <1 | <2 | <1 |

| Component Analyzed | Method | Unit | PQL | Analysis Result 117MW16 00-05616-7 | 117MW10 (MD) 00-05616-9 | 109-MW-01 00-05616-10 |
|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 190 | 140 | 230 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 1,370 | 764 | 902 |
| Dilution Factor | | | | 50 | 20 | 20 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 52 | 40 | 67 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 3 | 9.6 | 10 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <2.5 | <1 | <1 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <5 | <2 | <2 |
| **SULFATE** | 9056 | mg/L | 0.5 | 678 | 302 | 303 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 117MW16 00-05616-7 | 117MW10 (MD) 00-05616-9 | 109-MW-01 00-05616-10 |
|---|---|---|---|---|---|---|
| **TTLC 17 METALS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ANTIMONY | 6010B | µg/L | 10 | <10 | <10 | <10 |
| ARSENIC | 6010B | µg/L | 5 | 3.5J | 4.6J | <5 |
| BARIUM | 6010B | µg/L | 10 | 20.4 | 19.3 | 25.7 |
| BERYLLIUM | 6010B | µg/L | 2 | <2 | <2 | 0.11J |
| CADMIUM | 6010B | µg/L | 2 | <2 | <2 | <2 |
| CHROMIUM | 6010B | µg/L | 5 | 2.5J | 21.0 | 19.8 |
| COBALT | 6010B | µg/L | 5 | <5 | <5 | <5 |
| COPPER | 6010B | µg/L | 10 | 1.3J | 1.3J | 1.7J |
| LEAD | 6010B | µg/L | 5 | <5 | <5 | <5 |
| MERCURY | 7470A | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| MOLYBDENUM | 6010B | µg/L | 5 | 3.4J | 3.9J | 3.1J |
| NICKEL | 6010B | µg/L | 5 | 7.9 | 6.1 | 5.4 |
| SELENIUM | 6010B | µg/L | 10 | 14.0 | 13.3 | 10.5 |
| SILVER | 6010B | µg/L | 10 | <10 | <10 | <10 |
| THALLIUM | 6010B | µg/L | 10 | 2.2J | 1.1J | <10 |
| VANADIUM | 6010B | µg/L | 10 | 3.3J | 13.1 | 2.7J |
| ZINC | 6010B | µg/L | 10 | 7.7J | 4.9J | 7.7J |
| Dilution Factor | | | | 1 | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 [a] | <0.1 [a] | <0.1 [a] |
| Dilution Factor | | | | 1 | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 | <0.1 [c] | <0.1 [c] |
| **VOLATILE ORGANICS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ACETONE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | <10 | 0.7J |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | 0.8 | <0.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 117MW16 00-05616-7 | 117MW10 (MD) 00-05616-9 | 109-MW-01 00-05616-10 |
|---|---|---|---|---|---|---|
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| HEXACHLOROBUTADIENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | µg/L | 0.5 | <0.5 | 0.4J | 0.5 |
| P-ISOPROPYLTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | µg/L | 0.5 | 1.1 | 1.6 | 2.5 |
| 4-METHYL-2-BUTANONE (MIBK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | µg/L | 5 | <5 | <5 | <5 |
| NAPHTHALENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | µg/L | 1 | <1 | <1 | <1 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 117-MW-12 00-05616-13 | BG-MW-01 00-05616-16 | BG-MW-02 00-05616-17 |
|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 120 | 442 | 150 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 1,390 | 584 | 704 |
| Dilution Factor | | | | 50 | 20 | 20 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 100 | 71 | 100 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 14 | 4.7 | 10 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | < 2.5 | < 1 | < 1 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | < 5 | < 2 | < 2 |
| **SULFATE** | 9056 | mg/L | 0.5 | 701 | 67 | 180 |
| **TTLC 17 METALS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ANTIMONY | 6010B | μg/L | 10 | < 10 | < 10 | < 10 |
| ARSENIC | 6010B | μg/L | 5 | < 5 | < 5 | < 5 |
| BARIUM | 6010B | μg/L | 10 | 39.1 | 72.3 | 21.5 |
| BERYLLIUM | 6010B | μg/L | 2 | < 2 | < 2 | < 2 |
| CADMIUM | 6010B | μg/L | 2 | < 2 | < 2 | < 2 |
| CHROMIUM | 6010B | μg/L | 5 | 8.7 | 3.5J | 5.4 |
| COBALT | 6010B | μg/L | 5 | < 5 | 3.5J | 4.3J |
| COPPER | 6010B | μg/L | 10 | 2.3J | 1.7J | 2.0J |
| LEAD | 6010B | μg/L | 5 | < 5 | < 5 | < 5 |
| MERCURY | 7470A | μg/L | 0.5 | < 0.5 | < 0.5 | < 0.5 |
| MOLYBDENUM | 6010B | μg/L | 5 | 3.1J | 8.5 | 8.7 |
| NICKEL | 6010B | μg/L | 5 | 7.3 | 51.6 | 19.6 |
| SELENIUM | 6010B | μg/L | 10 | 42.9 | 2.8J | 5.4J |
| SILVER | 6010B | μg/L | 10 | < 10 | < 10 | < 10 |
| THALLIUM | 6010B | μg/L | 10 | 1.0J | 1.9J | < 10 |
| VANADIUM | 6010B | μg/L | 10 | 3.4J | 1.6J | 3.0J |
| ZINC | 6010B | μg/L | 10 | 6.3J | 240 | 148 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | < 0.1 [a] | < 0.1 [a] | < 0.1 [a] |
| Dilution Factor | | | | 1 | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | < 0.1 | < 0.1 [c] | 0.67 [d] |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 117-MW-12 00-05616-13 | BG-MW-01 00-05616-16 | BG-MW-02 00-05616-17 |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ACETONE | 8260B | µg/L | 10 | <10 | 6J | 6J |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | 0.3J | <10 |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 117-MW-12 00-05616-13 | BG-MW-01 00-05616-16 | BG-MW-02 00-05616-17 |
|---|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | µg/L | 0.5 | 0.4J | <0.5 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | µg/L | 0.5 | 3.0 | 4.4 | 4.2 |
| 4-METHYL-2-BUTANONE (MIBK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | µg/L | 5 | <5 | <5 | 0.5J |
| NAPHTHALENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | µg/L | 1 | <1 | <1 | <1 |

| Component Analyzed | Method | Unit | PQL | Analysis Result BG-MW-03 00-05616-20 | CL2-MW-05 00-05616-21 | CL2-MW-01B 00-05616-24 |
|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 160 | 310 | 420 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 721 | 860 | 1,080 |
| Dilution Factor | | | | 20 | 40 | 40 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 101 | 120 | 130 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 10 | 8.9 | 2 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <1 | <2 | <2 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <2 | <4 | <4 |
| **SULFATE** | 9056 | mg/L | 0.5 | 180 | 160 | 260 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result BG-MW-03 00-05616-20 | CL2-MW-05 00-05616-21 | CL2-MW-01B 00-05616-24 |
|---|---|---|---|---|---|---|
| **TTLC 17 METALS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ANTIMONY | 6010B | µg/L | 10 | <10 | <10 | <10 |
| ARSENIC | 6010B | µg/L | 5 | <5 | <5 | 3.1J |
| BARIUM | 6010B | µg/L | 10 | 29.5 | 38.1 | 75.5 |
| BERYLLIUM | 6010B | µg/L | 2 | <2 | <2 | <2 |
| CADMIUM | 6010B | µg/L | 2 | <2 | <2 | <2 |
| CHROMIUM | 6010B | µg/L | 5 | 19.6 | 20.6 | 1.9J |
| COBALT | 6010B | µg/L | 5 | <5 | <5 | 1.3J |
| COPPER | 6010B | µg/L | 10 | 1.3J | 9.0J | 1.8J |
| LEAD | 6010B | µg/L | 5 | <5 | <5 | <5 |
| MERCURY | 7470A | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| MOLYBDENUM | 6010B | µg/L | 5 | 4.0J | 2.0J | 3.6J |
| NICKEL | 6010B | µg/L | 5 | 7.6 | 2.1J | 7.4 |
| SELENIUM | 6010B | µg/L | 10 | 4.3J | 6.4J | 4.1J |
| SILVER | 6010B | µg/L | 10 | <10 | <10 | <10 |
| THALLIUM | 6010B | µg/L | 10 | 1.6J | 1.2J | 1.0J |
| VANADIUM | 6010B | µg/L | 10 | 2.0J | 2.2J | 1.9J |
| ZINC | 6010B | µg/L | 10 | 21.3 | 7.9J | 9.1J |
| Dilution Factor | | | | 1 | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 [a] | <0.1 [a] | <0.1 [a] |
| Dilution Factor | | | | 1 | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 [c] | <0.1 | <0.1 [c] |
| **VOLATILE ORGANICS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ACETONE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | <10 | 0.7J |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result BG-MW-03 00-05616-20 | CL2-MW-05 00-05616-21 | CL2-MW-01B 00-05616-24 |
|---|---|---|---|---|---|---|
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| HEXACHLOROBUTADIENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | µg/L | 0.5 | 3.6 | 3.4 | 2.3 |
| 4-METHYL-2-BUTANONE (MIBK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | µg/L | 5 | <5 | <5 | <5 |
| NAPHTHALENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | µg/L | 0.5 | 0.7 | <0.5 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | µg/L | 1 | <1 | <1 | <1 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-03 00-05616-25 | 17-MW-15 00-05616-28 |
|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 230 | 62 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 872 | 1,310 |
| Dilution Factor | | | | 20 | 50 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 65 | 50 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 9.5 | <2 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <1 | <2.5 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <2 | <5 |
| **SULFATE** | 9056 | mg/L | 0.5 | 292 | 778 |
| **TTLC 17 METALS** | | | | | |
| Dilution Factor | | | | 1 | 1 |
| ANTIMONY | 6010B | μg/L | 10 | <10 | <10 |
| ARSENIC | 6010B | μg/L | 5 | <5 | <5 |
| BARIUM | 6010B | μg/L | 10 | 25.8 | 36.2 |
| BERYLLIUM | 6010B | μg/L | 2 | <2 | <2 |
| CADMIUM | 6010B | μg/L | 2 | <2 | <2 |
| CHROMIUM | 6010B | μg/L | 5 | 20.1 | 0.40J |
| COBALT | 6010B | μg/L | 5 | <5 | <5 |
| COPPER | 6010B | μg/L | 10 | 1.5J | <10 |
| LEAD | 6010B | μg/L | 5 | <5 | <5 |
| MERCURY | 7470A | μg/L | 0.5 | <0.5 | <0.5 |
| MOLYBDENUM | 6010B | μg/L | 5 | 3.0J | 4.4J |
| NICKEL | 6010B | μg/L | 5 | 4.2J | 0.84J |
| SELENIUM | 6010B | μg/L | 10 | 8.0J | <10 |
| SILVER | 6010B | μg/L | 10 | <10 | <10 |
| THALLIUM | 6010B | μg/L | 10 | 1.0J | <10 |
| VANADIUM | 6010B | μg/L | 10 | 2.4J | 1.5J |
| ZINC | 6010B | μg/L | 10 | 15.6 | 6.6J |
| Dilution Factor | | | | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 [a] | <0.1 [a] |
| Dilution Factor | | | | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 [c] | <0.1 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-03 00-05616-25 | 17-MW-15 00-05616-28 |
|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | |
| Dilution Factor | | | | 1 | 1 |
| ACETONE | 8260B | µg/L | 10 | <10 | 7J |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | <10 |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-03 00-05616-25 | Analysis Result 17-MW-15 00-05616-28 |
|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | µg/L | 10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | µg/L | 0.5 | 2.6 | 3.0 |
| 4-METHYL-2-BUTANONE (MIBK) | 8260B | µg/L | 10 | <10 | <10 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | µg/L | 5 | <5 | <5 |
| NAPHTHALENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | µg/L | 0.5 | 1.6 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | µg/L | 1 | <1 | <1 |

| Component Analyzed | Method | Unit | PQL | Analysis Result Trip Blank 00-05616-29 | Analysis Result Trip Blank 11/08 00-05616-30 |
|---|---|---|---|---|---|
| Dilution Factor | | | | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Trip Blank 00-05616-29 | Analysis Result Trip Blank 11/08 00-05616-30 |
|---|---|---|---|---|---|
| VOLATILES | | | | | |
| Dilution Factor | | | | 1 | 1 |
| ACETONE | 8260B | µg/L | 10 | <10 | <10 |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | <10 |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result Trip Blank 00-05616-29 | Analysis Result Trip Blank 11/08 00-05616-30 |
|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | μg/L | 10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | μg/L | 0.5 | 1.3 | 1.8 |
| 4-METHYL-2-BUTANONE (MIBK) | 8260B | μg/L | 10 | <10 | <10 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | μg/L | 5 | <5 | <5 |
| NAPHTHALENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | μg/L | 0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | μg/L | 1 | <1 | <1 |

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.

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

(a) Sample chromatogram contained some unknown peaks at $C_{12}$ to $C_{16}$ range, two major peaks might be corresponded to peaks alpha-methylstyrene and 2-ethyl-1-hexanone from GC-MS Library 8260B analysis.

(c) Sample chromatogram contained unknown peaks in Motor Oil range.

(d) Unknown mixture in Motor oil range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

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# Case Narrative

## Project: Crows Landing/CTO 004/800063

### For The IT Group

**APCL Service No: 00-5616**

## 1. Sample Identification

The sample identifications are listed in the following table:

| The IT Group Sample ID | APCL Sample ID |
|---|---|
| CL2-MW-05 | 00-05616-21 |
| BG-MW-01 | 00-05616-16 |
| CL2-MW-01B | 00-05616-24 |
| CL-99-01 | 00-05616-1 |
| 17-MW-15 | 00-05616-28 |
| Trip Blank | 00-05616-29 |
| 117MW16 | 00-05616-7 |
| 117MW10 (MD) | 00-05616-9 |
| BG-MW-02 | 00-05616-17 |
| 17-MW-08 | 00-05616-6 |
| BG-MW-03 | 00-05616-20 |
| 17-MW-02 | 00-05616-3 |
| 117-MW-12 | 00-05616-13 |
| 109-MW-01 | 00-05616-10 |
| CL-99-03 | 00-05616-25 |
| Trip Blank 11/08 | 00-05616-30 |

## 2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics ),
M8015V/M8015G (Gasoline ),
M8015E/M8015D (TPH: Diesel ),
M8015E/M8015M (TPH: Motor Oil ),
6010/various (TTLC 17 Metals ),
300.0 (Chloride $Cl^-$ by IC ),
300.0/SM4500NO3C (Nitrate ($NO_3^-$) as N by IC ),
310.1 (Alkalinity ),
160.1 (Solids, Total Dissolved (TDS) ),
M8015V/M8015V (JP-4 ),

## 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

None

"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,

Charles Wu
Associate Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

# General Information

Project: 800063 Crows Landing

APCL Service ID: 00-5616

Applied P & Ch Laboratory
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# Case Narrative

## Project: Crows Landing/CTO 004/800063

### For The IT Group

**APCL Service No: 00-5616**

## 1. Sample Identification

The sample identifications are listed in the following table:

| The IT Group Sample ID | APCL Sample ID |
|---|---|
| CL2-MW-05 | 00-05616-21 |
| BG-MW-01 | 00-05616-16 |
| CL2-MW-01B | 00-05616-24 |
| CL-99-01 | 00-05616-1 |
| 17-MW-15 | 00-05616-28 |
| Trip Blank | 00-05616-29 |
| 117MW16 | 00-05616-7 |
| 117MW10 (MD) | 00-05616-9 |
| BG-MW-02 | 00-05616-17 |
| 17-MW-08 | 00-05616-6 |
| BG-MW-03 | 00-05616-20 |
| 17-MW-02 | 00-05616-3 |
| 117-MW-12 | 00-05616-13 |
| 109-MW-01 | 00-05616-10 |
| CL-99-03 | 00-05616-25 |
| Trip Blank 11/08 | 00-05616-30 |

## 2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics ),
M8015V/M8015G (Gasoline ),
M8015E/M8015D (TPH: Diesel ),
M8015E/M8015M (TPH: Motor Oil ),
6010/various (TTLC 17 Metals ),
300.0 (Chloride $Cl^-$ by IC ),
300.0/SM4500NO3C (Nitrate ($NO_3^-$) as N by IC ),
310.1 (Alkalinity ),
160.1 (Solids, Total Dissolved (TDS) ),
M8015V/M8015V (JP-4 ),

## 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 and JP-4 were analyzed by purge and trap method. For QC samples, only gasoline standards were analyzed. If a sample chromatgraph pattern matches that of JP-4 standard, the sample will be analyzed again with JP-4 standards.

(2) M8015E:

Three peaks at retention times 3.40, 3.52 adn 3.933 were detected in all samples. These three peaks fall in C12-C16 range. Chromatograms for all samples does not match diesel pattern.

"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,

Charles Wu
Associate Laboratory Director
Applied P & Ch Laboratory

## Mark Heckman

**From:** Condit, Rose [Rcondit@theitgroup.com]
**Sent:** Friday, November 10, 2000 1:22 PM
**To:** 'markh@apclab.com'
**Subject:** COC 573650

I messed up this COC on lines 5 & 6.

17-MW-(blank) should be 17-MW-15 collected on 11/7/2000 @ 1510

CL-99-15 should be CL-99-01 collected on 11/7/2000 @ 1505

Sorry for the confusion.

Rose



120602

Applied P & Ch Laboratory
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# Sample Receiving Checklist

APCL ServiceID: 5616 Client Name/Project: IT Crow's Landing

**1. Sample Arrival**

Date/Time Received 11/9/00 815 Date/Time Opened 11/9/00 900 By (name): MH

Custody Transfer: ☐ Client ☒ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☐ APCL Empl: _____

**2. Chain-of-Custody (CoC)**

☒ With Samples? ☐ Faxed? ☒ Client has Copy? ☒ Signed, dated? By: R. Condit
☒ Project ID? ☒ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received _____
☒ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☒ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

**3. Shipping Container/Cooler**

☒ Cooler Used? # of 4 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

| | | | | | |
|---|---|---|---|---|---|
| Temp °C | 2.9°C | 3.5°C | 4.0°C | 4.5°C | |

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

**4. Sample Preservation**

☐ pH <2 ☐ pH >12
If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

**5. Holding-time Requirements**

☐ pH 24hr ☐ BACT 6/24hr ☐ $Cr^{VI}$ 24hr ☐ $NO_3^-$ 48hr ☐ BOD 48hr
☐ $Cl_2$ ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

**6. Sample Container Condition**

☒ Intact? ☐ Broken? ☐ Documented? Number: _____
Type: ☒ plastic ☒ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☒ Quantity OK? ☐ Leaking? ☐ Anomaly?
☒ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☒ Unique ID? ☒ Date/Time ☐ Preserved?

**7. Turn Around Time**

☒ RUSH TAT: 5 day ☐ Std (7-10 days) ☐ Not Marked

**8. Sample Matrix**

☐ Drinking $H_2O$ ☒ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☐ Ground $H_2O$ ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

**9. Pre-Login Check List Completed & OK?**

☒ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____ )Date/Time:_____

Received/Checked by: MH Date: 9 Nov 2000 Time: 8:15 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

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# Sample Login: Check List

## 00-05616 (0894_ 845) (3729100_ 845)

11/09/00

## Part 1: General Information

| | | | |
|---|---|---|---|
| ☐ | Company Information | Name: | *The IT Group* |
| | | Address: | *4005 Port Chicago Highway ,Concord ,CA 94520-1120* |
| ☐ | Project Information | Project Description: | *Crows Landing* |
| | | | *CTO 004* |
| | | Project #: | *800063* |
| ☐ | Billing Information | P.O. #: | |
| | | Bill Address: | *4005 Port Chicago Highway ,Concord ,CA 94520-1120* |
| | | Lab Project ID: | *1999_0777* |
| | | Client Database #: | *01* |
| ☐ | Receiving Information | Who Received Sample? | *Mark* |
| | | Receiving Date/Time: | *11/09/00 0940* |
| | | COC No. | *573860 573651* |
| ☐ | Shipping Information | Shipping Company | *Express* |
| | | Packing Information: | *Cooler/Ice Chester* |
| | | Cooler Temperature: | *2.9 3.5 4.0 4.5 °C* |
| ☐ | Container Information | Container Provider: | *Client* |
| ☐ | Sampling Information | Sampling Person: | |
| | | Sampling Company: | *Client* |
| ☐ | Turn-Around-Time Option: | | *Rush 5 working day(s)* |
| ☐ | QC Option: | | *NEESA D* |
| ☐ | Disposal Option: | | *Not specify* |



120604

## Part 2: Sample Information

| Seq. # | Sample ID (on COC) | Sample Sub-ID | APCL Sample ID | Matrix | Cont-tainer | Preser-vative | Vol, ml Am. g | # of Replica | Condition G, L, B | Collected mmddyy | Hold ? | Composite Group | TAT Days | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CL2-MW-05 ✓ | 8260 | 00-05616-21-$\alpha$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-05 | Gas | 00-05616-21-$\beta$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-05 | 8015 | 00-05616-21-$\gamma$ | W | G | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-05 | Metals | 00-05616-21-$\delta$ | W | P | N | 500 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-05 | Anions | 00-05616-21-$\zeta$ | W | P | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| 2 | BG-MW-01 ✓ | 8260 | 00-05616-16-$\alpha$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | BG-MW-01 | Gas | 00-05616-16-$\beta$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | BG-MW-01 | 8015 | 00-05616-16-$\gamma$ | W | G | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | BG-MW-01 | Metals | 00-05616-16-$\delta$ | W | P | N | 500 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | BG-MW-01 | Anions | 00-05616-16-$\zeta$ | W | P | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| 3 | CL2-MW-01B ✓ | 8260 | 00-05616-24-$\alpha$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-01B | Gas | 00-05616-24-$\beta$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-01B | 8015 | 00-05616-24-$\gamma$ | W | G | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-01B | Metals | 00-05616-24-$\delta$ | W | P | N | 500 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | CL2-MW-01B | Anions | 00-05616-24-$\zeta$ | W | P | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| 4 | 17-MW ✓ Bottles | 8260 | 00-05616-1-$\alpha$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | 17-MW have | Gas | 00-05616-1-$\beta$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | 17-MW ID's | 8015 | 00-05616-1-$\gamma$ | W | G | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | 17-MW "99-CL-01" | Metals | 00-05616-1-$\delta$ | W | P | N | 500 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | 17-MW | Anions | 00-05616-1-$\zeta$ | W | P | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| 5 | CL-99-15 ✓ | 8260 | 00-05616-28-$\alpha$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | CL-99-15 Bottles | Gas | 00-05616-28-$\beta$ | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| | CL-99-15 have | 8015 | 00-05616-28-$\gamma$ | W | G | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | CL-99-15 ID's "17-MW-15" | Metals | 00-05616-28-$\delta$ | W | P | N | 500 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| | CL-99-15 | Anions | 00-05616-28-$\zeta$ | W | P | | 1000 | 1 | G | 110700 | N | 0 | 7 | ☐ |
| 6 | Trip Blank 11/07 | 8260 | 00-05616-29 | W | V | C | 40 | 3 | G | 110700 | N | 0 | 7 | ☐ |
| 7 | 17MW16 ✓ | 8260 | 00-05616-7-$\alpha$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW16 | Gas | 00-05616-7-$\beta$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW16 | 8015 | 00-05616-7-$\gamma$ | W | G | | 1000 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW16 | Metals | 00-05616-7-$\delta$ | W | P | N | 500 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW16 | Anions | 00-05616-7-$\zeta$ | W | P | | 1000 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| 8 | 117 ~~17~~MW10 (MD) | 8260 | 00-05616-9-$\alpha$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |
| | ↓ 17MW10 (MD) | Gas | 00-05616-9-$\beta$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW10 (MD) | 8015 | 00-05616-9-$\gamma$ | W | G | | 1000 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW10 (MD) | Metals | 00-05616-9-$\delta$ | W | P | N | 500 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| | 17MW10 (MD) | Anions | 00-05616-9-$\zeta$ | W | P | | 1000 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| 9 | BG-MW-02 ✓ | 8260 | 00-05616-17-$\alpha$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |
| | BG-MW-02 | Gas | 00-05616-17-$\beta$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |
| | BG-MW-02 | 8015 | 00-05616-17-$\gamma$ | W | G | | 1000 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| | BG-MW-02 | Metals | 00-05616-17-$\delta$ | W | P | N | 500 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| | BG-MW-02 | Anions | 00-05616-17-$\zeta$ | W | P | | 1000 | 1 | G | 110800 | N | 0 | 7 | ☐ |
| 10 | 17-MW-08 ✓ | 8260 | 00-05616-6-$\alpha$ | W | V | C | 40 | 3 | G | 110800 | N | 0 | 7 | ☐ |



120005

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 573650
Page 1 of 1

800063

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

Samples Shipment Date [7] 11/7/00
Lab Destination [8] APCL
Lab Contact [9] M. Heckman
Project Contact/Phone [12] R. Condit
Carrier/Waybill No. [13] Golden State

Bill to: [5] IT-Concord

Report to: [10] IT-Concord
Rose Condit

White: To accompany samples
Yellow: Field copy

**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] |
|---|---|---|---|---|---|---|---|---|
| CL2-MW-05 | Groundwater | 11/7/00 1105 | | 2P 2L 5V | HCL HNO3 None | EPA 8260 + MTBE ~~TPH Gas Jet Fuel~~ TPH-Diesel/M.O. Metals-CAM17 Dissolved ~~Anions~~ Alkalinity TDS | SAMPLES RECEIVED IN GOOD CONDITION TEMP 4°C | |
| BG-MW-01 | | 1030 | | | | | | |
| ~~BG-MW-02~~ RC 11/7/00 | | — | | | | | | |
| CL2-MW-01B | | 1410 | | | | | | |
| 17-MW | | 1510 | | | | | | |
| CL-99-15 | | 1505 | | | | | | |
| | | | | | | | | |
| trip blank | | | | | | TPH Gas/JF EPA 8260 | | |

5616

Special Instructions: [23] * Metals field filtered  * See PAM + SAP for special instructions

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 ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): Level IV

| | | | |
|---|---|---|---|
| 1. Relinquished by [28] (Signature/Affiliation) Rosemary Condit | Date: 11/7/00 Time: | 1. Received by [28] (Signature/Affiliation) Golden State | Date: 11/7/00 Time: |
| 2. Relinquished by (Signature/Affiliation) G.S. | Date: 11/9/00 Time: | 2. Received by (Signature/Affiliation) Mark A. Hell | Date: 11/9/00 Time: 940 |
| 3. Relinquished by (Signature/Affiliation) | Date: Time: | 3. Received by (Signature/Affiliation) | Date: Time: |

Comments: [29]

*See back of form for special instructions.

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 573651
Page 1 of 2

800063

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

Samples Shipment Date 7 11/8/00
Lab Destination 8 APCL
Lab Contact 9 M. Heckman
Project Contact/Phone 12 R. Condit
Carrier/Waybill No. 13 Goldm State

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 |
|---|---|---|---|---|---|---|---|---|
| 17 MW16 | Groundwater | 11/8/00 720 | VOA | | HCL | EPA 8260 + MTBE TPH-Gas + Jet fuel | SAMPLES | |
| 117 MW-10(NO) | | 950 | Liter Liter | | None + | TPH Diesel + M.O. Anions, TDS, Alkalinity | RECEIVED IN GOOD | |
| BG-MW-02 | | 600 | | | | | | |
| 17-MW-08 | | 1150 | Plastic | | HNO3 | Metals - dissolved (CAM17) | CONDITION | |
| BG-MW03 | | 750 | | | | | TEMP=2.9°C | |
| 17-MW-02 | | 940 | | | | | | |
| 117-MW-12 | | 1229 | | | | | | |
| trip blank | | | | | | TPH-GAS 1JF EPA 8260 + MTBE | | |

FOR LAB USE ONLY

FOR LAB USE ONLY

5616

Special Instructions: 23

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 ☐

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

| | | | |
|---|---|---|---|
| 1. Relinquished by 28 (Signature/Affiliation) R Condit | Date: 11/8/00 Time: | 1. Received by 28 (Signature/Affiliation) Courier | Date: 11/8/00 Time: |
| 2. Relinquished by (Signature/Affiliation) G.S. | Date: Time: | 2. Received by (Signature/Affiliation) Mark A. Hulet | Date: 11/9/00 Time: 940 |
| 3. Relinquished by (Signature/Affiliation) | Date: Time: | 3. Received by (Signature/Affiliation) | Date: Time: |

Comments: 29

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

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 573657



Project Name Crows Landing

Project No. 800063

Samples Shipment Date 11/8/00

**ONE CONTAINER PER LINE**

| Sample[14] Number | Sample[15] Description/Type | Date/Time[16] Collected | Container[17] Type | Sample[18] Volume | Pre-[19] servative | Requested Testing[20] Program | Condition on[21] Receipt | Disposal[22] Record No. |
|---|---|---|---|---|---|---|---|---|
| 109-MW-01 | Groundwater | 11/8/00 1350 | | | | EPA 8260 + MTBE | | |
| CL-99-03 | | 1400 | | | | TPH Gas / SF | | |
| | | | | | | TPH - D/MO | | |
| | | | | | | Metals - CAM17 | | |
| | | | | | | Alkalinity | | |
| | | | | | | TDS | | |
| | | | | | | Anions | | |

5616

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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 #: 801-005644
Collected by: RC/JA/BC
Collected on: 11/09/00

Received: 11/10/00
Extracted: 11/10-11/00
Tested: 11/10-17/00
Revised: 01/11/01

Sample Description: Ground Water
Project Description: 800063 Crows Landing

## Analysis of Water Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result 11-MW-04 00-05644-1 | 11-MW-06 00-05644-2 | 117-MW-10S 00-05644-3 | CL1-MW-02 00-05644-4 |
|---|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 270 | 160 | 210 | 731 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 913 | 909 | 736 | 1,320 |
| Dilution Factor | | | | 25 | 20 | 20 | 25 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 108 | 98 | 87 | 90 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 15 | 14 | 5.0 | <1 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <1.3 | <1 | <1 | <1.3 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <2.5 | <2 | <2 | <2.5 |
| **SULFATE** | 9056 | mg/L | 0.5 | 250 | 333 | 234 | 210 |
| **TTLC 17 METALS** | | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| ANTIMONY | 6010B | µg/L | 10 | <10 | <10 | 4.6J | <10 |
| ARSENIC | 6010B | µg/L | 5 | <5 | <5 | <5 | 27.4 |
| BARIUM | 6010B | µg/L | 10 | 67.1 | 18.9 | 25.8 | 96.0 |
| BERYLLIUM | 6010B | µg/L | 2 | <2 | <2 | <2 | <2 |
| CADMIUM | 6010B | µg/L | 2 | <2 | <2 | <2 | 0.24J |
| CHROMIUM | 6010B | µg/L | 5 | 14.4 | 20.5 | 1.6J | 2.0J |
| COBALT | 6010B | µg/L | 5 | <5 | <5 | <5 | 2.9J |
| COPPER | 6010B | µg/L | 10 | 3.5J | 1.9J | 2.6J | <10 |
| LEAD | 6010B | µg/L | 5 | <5 | <5 | <5 | <5 |
| MERCURY | 7470A | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MOLYBDENUM | 6010B | µg/L | 5 | 4.1J | 6.0 | 4.6J | 0.58J |
| NICKEL | 6010B | µg/L | 5 | 11.4 | 5.9 | 10.6 | 3.2J |
| SELENIUM | 6010B | µg/L | 10 | 1.9J | 9.9J | 3.7J | 6.8J |
| SILVER | 6010B | µg/L | 10 | <10 | <10 | <10 | 1.0J |
| THALLIUM | 6010B | µg/L | 10 | 2.5J | 1.1J | <10 | <10 |
| VANADIUM | 6010B | µg/L | 10 | 2.7J | 2.0J | 3.6J | <10 |
| ZINC | 6010B | µg/L | 10 | 44.2 | 8.0J | 21.7 | 6.7J |
| Dilution Factor | | | | 1 | 1 | 1 | 50 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | 0.01J [a] | <0.05 | 0.08 | 17 |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 | 100 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | 0.1 [b] | <0.1 [b] | <0.1 [b] | 25 [e] |
| Dilution Factor | | | | 1 | 1 | 1 | 100 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 | <0.1 | <0.1 [c] | <0.1 [c] |

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

# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 11-MW-04 00-05644-1 | 11-MW-06 00-05644-2 | 117-MW-105 00-05644-3 | CL1-MW-02 00-05644-4 |
|---|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 | 5 |
| ACETONE | 8260B | µg/L | 10 | <10 | <10 | <10 | 6,640 |
| BENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | 1.9 | 3,070 (d) |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 | <10 | 440 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 12 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | <10 | <10 | <50 |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | 1.4 | <2.5 |
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | 0.9 | 27 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 55 |

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Tel: (909) 590-1828 Fax: (909) 590-1498

# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result 11-MW-04 00-05644-1 | 11-MW-06 00-05644-2 | 117-MW-10S 00-05644-3 | CL1-MW-02 00-05644-4 |
|---|---|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 2-HEXANONE | 8260B | µg/L | 10 | <10 | <10 | <10 | <50 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | µg/L | 0.5 | <0.5 | <0.5 | 0.5 | 170 |
| P-ISOPROPYLTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| METHYLENE CHLORIDE | 8260B | µg/L | 0.5 | 0.8 | 0.7 | 0.7 | 3 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | µg/L | 5 | <5 | <5 | <5 | <25 |
| 4-METHYL-2-PENTANONE | 8260B | µg/L | 10 | <10 | <10 | 4J | <50 |
| NAPHTHALENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 5 |
| N-PROPYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| STYRENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| TETRACHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| TOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 6.7 |
| 1,2,3-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| TRICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| TRICHLOROFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 5.3 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | 2J |
| VINYL CHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <2.5 |
| XYLENE (TOTAL) | 8260B | µg/L | 1 | <1 | <1 | <1 | 9 |

| Component Analyzed | Method | Unit | PQL | Analysis Result CL1-MW-4 00-05644-5 | CL1-MW-13 00-05644-6 | CL1-MW-09(MS) 00-05644-7 | CL2-MW-04 00-05644-8 |
|---|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 290 | 150 | 210 | 360 |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 797 | 779 | 1,220 | 1,110 |
| Dilution Factor | | | | 20 | 25 | 40 | 40 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 70 | 34 | 110 | 150 |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 3.7 | 4.2 | 9.1 | 8.1 |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <1 | <1.3 | <2 | <2 |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <2 | <2.5 | <4 | <4 |
| **SULFATE** | 9056 | mg/L | 0.5 | 235 | 393 | 519 | 310 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL1-MW-4 00-05644-5 | CL1-MW-13 00-05644-6 | CL1-MW-09(MS) 00-05644-7 | CL2-MW-04 00-05644-8 |
|---|---|---|---|---|---|---|---|
| **TTLC 17 METALS** | | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| ANTIMONY | 6010B | μg/L | 10 | <10 | <10 | <10 | <10 |
| ARSENIC | 6010B | μg/L | 5 | <5 | 2.4J | <5 | <5 |
| BARIUM | 6010B | μg/L | 10 | 25.7 | 28.9 | 24.3 | 41.3 |
| BERYLLIUM | 6010B | μg/L | 2 | <2 | <2 | <2 | <2 |
| CADMIUM | 6010B | μg/L | 2 | <2 | <2 | <2 | <2 |
| CHROMIUM | 6010B | μg/L | 5 | 1.5J | 14.7 | 1.3J | 14.1 |
| COBALT | 6010B | μg/L | 5 | <5 | <5 | <5 | <5 |
| COPPER | 6010B | μg/L | 10 | 1.5J | 1.5J | 1.9J | 1.3J |
| LEAD | 6010B | μg/L | 5 | <5 | <5 | <5 | <5 |
| MERCURY | 7470A | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MOLYBDENUM | 6010B | μg/L | 5 | 2.7J | 5.4 | 1.6J | 3.0J |
| NICKEL | 6010B | μg/L | 5 | 6.9 | 5.0 | 3.0J | 3.0J |
| SELENIUM | 6010B | μg/L | 10 | 3.1J | 10.1 | 19.0 | 3.2J |
| SILVER | 6010B | μg/L | 10 | <10 | <10 | <10 | <10 |
| THALLIUM | 6010B | μg/L | 10 | <10 | 1.4J | 1.7J | <10 |
| VANADIUM | 6010B | μg/L | 10 | 2.4J | 3.6J | 1.9J | 3.1J |
| ZINC | 6010B | μg/L | 10 | 5.8J | 3.7J | 7.1J | 8.0J |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | 0.03J | 0.01J | 0.09 | 0.01J |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 (b) | <0.1 (b) | <0.1 (b) | <0.1 (b) |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 (c) | <0.1 | <0.1 (c) | <0.1 |
| **VOLATILE ORGANICS** | | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 | 1 |
| ACETONE | 8260B | μg/L | 10 | 10 | <10 | <10 | <10 |
| BENZENE | 8260B | μg/L | 0.5 | 4.1 | <0.5 | 9.8 | <0.5 |
| BROMOBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | μg/L | 10 | <10 | <10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | μg/L | 10 | <10 | <10 | <10 | <10 |
| CARBON TETRACHLORIDE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | μg/L | 0.5 | <0.5 | <0.5 | 3.7 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL1-MW-4 00-05644-5 | CL1-MW-13 00-05644-6 | CL1-MW-09(MS) 00-05644-7 | CL2-MW-04 00-05644-8 |
|---|---|---|---|---|---|---|---|
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | 1.5 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| HEXACHLOROBUTADIENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | µg/L | 10 | <10 | <10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | µg/L | 0.5 | 0.5 | 1.1 | 1.3 | 0.6 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | µg/L | 5 | <5 | <5 | <5 | <5 |
| 4-METHYL-2-PENTANONE | 8260B | µg/L | 10 | <10 | <10 | <10 | <10 |
| NAPHTHALENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | µg/L | 1 | <1 | <1 | <1 | <1 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-2 00-05644-9 | MW-117-4 00-05644-10 | Trip Blank 00-05644-11 |
|---|---|---|---|---|---|---|
| **ALKALINITY** | 310.1 | mg-$CaCO_3$/L | 20 | 210 | 250 | - |
| **SOLIDS, TOTAL DISSOLVED (TDS)** | 160.1 | mg/L | 10 | 1,220 | 1,270 | - |
| Dilution Factor | | | | 40 | 80 | 1 |
| **CHLORIDE** | 9056 | mg/L | 0.2 | 110 | 334 | - |
| **NITRATE AS N** | 9056 | mg/L | 0.04 | 8.9 | 31 | - |
| **NITRITE AS N** | 9056 | mg/L | 0.05 | <2 | <4 | - |
| **PHOSPHORUS, ORTHOPHOSPHATE** | 9056 | mg/L | 0.1 | <4 | <8 | - |
| **SULFATE** | 9056 | mg/L | 0.5 | 517 | 30J | - |
| **TTLC 17 METALS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ANTIMONY | 6010B | μg/L | 10 | <10 | <10 | - |
| ARSENIC | 6010B | μg/L | 5 | <5 | <5 | - |
| BARIUM | 6010B | μg/L | 10 | 23.8 | 206 | - |
| BERYLLIUM | 6010B | μg/L | 2 | <2 | <2 | - |
| CADMIUM | 6010B | μg/L | 2 | <2 | <2 | - |
| CHROMIUM | 6010B | μg/L | 5 | 1.5J | 19.8 | - |
| COBALT | 6010B | μg/L | 5 | <5 | <5 | - |
| COPPER | 6010B | μg/L | 10 | 1.4J | <10 | - |
| LEAD | 6010B | μg/L | 5 | <5 | <5 | - |
| MERCURY | 7470A | μg/L | 0.5 | <0.5 | <0.5 | - |
| MOLYBDENUM | 6010B | μg/L | 5 | 1.7J | 2.3J | - |
| NICKEL | 6010B | μg/L | 5 | 3.1J | 5.2 | - |
| SELENIUM | 6010B | μg/L | 10 | 17.6 | 2.3J | - |
| SILVER | 6010B | μg/L | 10 | <10 | <10 | - |
| THALLIUM | 6010B | μg/L | 10 | <10 | <10 | - |
| VANADIUM | 6010B | μg/L | 10 | 2.2J | 2.2J | - |
| ZINC | 6010B | μg/L | 10 | 8.0J | 4.8J | - |
| Dilution Factor | | | | 1 | 1 | 1 |
| **GASOLINE RANGE ORGANICS** | M8015V | mg/L | 0.05 | 0.09 | 0.03J | 0.02J |
| Dilution Factor | | | | 1 | 1 | 1 |
| **JET FUEL** | M8015V | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| Dilution Factor | | | | 1 | 1 | 1 |
| **DIESEL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 (b) | <0.1 (b) | - |
| Dilution Factor | | | | 1 | 1 | 1 |
| **MOTOR OIL RANGE ORGANICS** | M8015E | mg/L | 0.1 | <0.1 (c) | <0.1 | - |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-2 00-05644-9 | MW-117-4 00-05644-10 | Trip Blank 00-05644-11 |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| ACETONE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| BENZENE | 8260B | µg/L | 0.5 | 10.3 | <0.5 | <0.5 |
| BROMOBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMODICHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOFORM | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| BROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-BUTANONE (MEK) | 8260B | µg/L | 10 | <10 | <10 | <10 |
| N-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| SEC-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TERT-BUTYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CARBON DISULFIDE | 8260B | µg/L | 10 | <10 | <10 | <10 |
| CARBON TETRACHLORIDE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOCHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CHLOROFORM | 8260B | µg/L | 0.5 | 3.8 | <0.5 | <0.5 |
| CHLOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 4-CHLOROTOLUENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DIBROMOETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DIBROMOMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,4-DICHLOROBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| DICHLORODIFLUOROMETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 8260B | µg/L | 0.5 | 1.5 | 5.8 | <0.5 |
| 1,1-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,2-DICHLOROETHENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2,2-DICHLOROPROPANE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| CIS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRANS-1,3-DICHLOROPROPENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| ETHYLBENZENE | 8260B | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result CL-99-2 00-05644-9 | MW-117-4 00-05644-10 | Trip Blank 00-05644-11 |
|---|---|---|---|---|---|---|
| HEXACHLOROBUTADIENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 2-HEXANONE | 8260B | μg/L | 10 | <10 | <10 | <10 |
| ISOPROPYLBENZENE (CUMENE) | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| P-ISOPROPYLTOLUENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 8260B | μg/L | 0.5 | 1.2 | 0.6 | <0.5 |
| METHYL-T-BYTYL ETHER (MTBE) | 8260B | μg/L | 5 | <5 | <5 | <5 |
| 4-METHYL-2-PENTANONE | 8260B | μg/L | 10 | <10 | <10 | <10 |
| NAPHTHALENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| N-PROPYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| STYRENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1,2-TETRACHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2,2-TETRACHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TETRACHLOROETHENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TOLUENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRICHLOROBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1-TRICHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2-TRICHLOROETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROETHENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| TRICHLOROFLUOROMETHANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,3-TRICHLOROPROPANE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2,4-TRIMETHYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,3,5-TRIMETHYLBENZENE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| VINYL CHLORIDE | 8260B | μg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| XYLENE (TOTAL) | 8260B | μg/L | 1 | <1 | <1 | <1 |

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) Not a typical gas pattern. Most of the peaks in the chromatogram correspond to the heavier portion of the chain.

(b) Sample chromatogram contained some unknown peaks at about $C_{12}$ to $C_{16}$ range.

(c) Sample chromatogram contained some unknown peaks in Motor Oil range.

(d) Analyzed with a dilution factor of 100.

(e) Unknown mixture in Jet Fuel range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

# General Information

Project: 800063 Crows Landing

APCL Service ID: 00-5644

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

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

# Case Narrative

## Project: Crows Landing/CTO 004/800063

### For The IT Group

**APCL Service No: 00-5644**

## 1. Sample Identification

The sample identifications are listed in the following table:

| The IT Group Sample ID | APCL Sample ID |
|---|---|
| 117-MW-105 | 00-05644-3 |
| CL2-MW-04 | 00-05644-8 |
| 11-MW-04 | 00-05644-1 |
| CL1-MW-09(MS) | 00-05644-7 |
| CL-99-2 | 00-05644-9 |
| 11-MW-06 | 00-05644-2 |
| CL1-MW-13 | 00-05644-6 |
| Trip Blank | 00-05644-11 |
| MW-117-4 | 00-05644-10 |
| CL1-MW-4 | 00-05644-5 |
| CL1-MW-02 | 00-05644-4 |

## 2. Analytical Methodology

Samples are analyzed by EPA methods

8260 (Volatile organics ),
M8015V/M8015G (Gasoline ),
M8015E/M8015D (TPH: Diesel ),
M8015E/M8015M (TPH: Motor Oil ),
6010 (TTLC 17 Metals ),
300.0 (Chloride $Cl^-$ by IC ),
300.0 (Nitrate ($NO_3^-$) as N by IC ),
310.1 (Alkalinity ),
160.1 (Solids, Total Dissolved (TDS) ),
M8015V/M8015V (JP-4 ),

## 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 and JP-4 were analyzed by purge and trap method. For QC samples, only gasoline standards were analyzed. If a sample chromatgraph pattern matches that of JP-4 standard, the sample will be analyzed again with JP-4 standards.

"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,

Charles Wu

Charles Wu
Associate Laboratory Director
Applied P & Ch Laboratory

the igroup

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 573653
Page 1 of 2

Project Name/No. 1 Crows Landing 800063
Sample Team Members 2 RC/JA/BS
Profit Center No. 3
Project Manager 4 B. Hulet
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 11/9/00
Lab Destination 8 APCL
Lab Contact 9 M. Heckman
Project Contact/Phone 12 R. Condit
Carrier/Waybill No. 13 Golden State

Bill to: 5 IT Concord
Report to: 10 IT - Concord
Rose Condit

White: To accompany samples
Yellow: Field copy

**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 |
|---|---|---|---|---|---|---|---|---|
| 117-MW-10S | Groundwater | 11/9/00 655 | | 3 VOA | HCL | EPA 8260 + MTBE | | |
| CL2-MW-04 | | 750 | | 2 VOA | HCL | TPH-GAS / JP | CL2-MW-4 | |
| 11-MW-04 | | 910 | | 2 Liter 1-500 | None HNO3 | TPH-D / MO Metals-CAM 17 | MS/MSD | |
| CL1-MW-09(MS) | | 925 | | 1-Liter | None | Anions | | |
| CL-99-2 | | 925 | | | | TDS Alkalinity | | |
| 11-MW-06 | | 1045 | | | | | | |
| CL1-MW-13 | | 1230 | | | | | | |
| trip blank | | — | | | | | | |

FOR LAB ONLY
SAMPLES RECEIVED IN GOOD CONDITION
TEMP = 3.1°C
5644

Special Instructions: 23 MS/MSD CL2-MW-4 Level IV

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 ☐

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

| | | | |
|---|---|---|---|
| 1. Relinquished by 28 (Signature/Affiliation) R. Condit | Date: 11/9/00 Time: | 1. Received by 28 (Signature/Affiliation) Golden State | Date: Time: |
| 2. Relinquished by (Signature/Affiliation) G.S. | Date: 11/10/00 Time: 915 | 2. Received by (Signature/Affiliation) Mark A. Hall | Date: 11/10/00 Time: 915 |
| 3. Relinquished by (Signature/Affiliation) | Date: Time: | 3. Received by (Signature/Affiliation) | Date: Time: |

Comments: 29

*See back of form for special instructions.

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 573653



Project Name Crows Landing

Project No. 800063

Samples Shipment Date 11/9/00

**ONE CONTAINER PER LINE**

| Sample[14] Number | Sample[15] Description/Type | Date/Time[16] Collected | Container[17] Type | Sample[18] Volume | Pre-[19] servative | Requested Testing[20] Program | Condition on[21] Receipt | Disposal[22] Record No. |
|---|---|---|---|---|---|---|---|---|
| MW-117-4 | Groundwater | 11/9/00 1200 | | 3VOA | HCL | EPA 8260 + MTBE | | |
| | | | | 2VOA | HCL | TPH GAS/JF | | |
| CL1-MW-4 | | 1330 | | 2-L | None | TPH D/MO. | | |
| CL1-MW-02 | | 1104 | | 1-500 | HNO3 | Metals-CAM 17 | | |
| | | | | 1L poly | None | Anions | | |
| | | | | | | TDS | | |
| | | | | | | Alkalinity | | |

5644

*See back of form for special instructions.

White: To accompany samples

Yellow: Field copy

MCA 3-15-91

# EPA METHOD 7196A
# Hexavalent Chromium

APPL, INC.

# Data Validation Package
# for

# EPA METHOD 7196A
# Hexavalent Chromium

## TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*


| | |
|---|---|
| Case Narrative | 3 |
| Chain of Custody and ARF | 6 |
| QC Summary | 10 |
| Sample Data | 15 |
| Calibration Data | 20 |
| Raw Data | 22 |


APPL, INC.

# EPA METHOD 7196A
# Hexavalent Chromium

## Case Narrative

APPL, INC.

# Case Narrative
# EPA METHOD 7196A
# Hexavalent Chromium
## APPL, Inc. State Certification No. CA1312

ARF: 33944

Project: 800063 CROWS LANDING

**Sample Receipt Information:**

The sample group was assigned Analytical Request Form (ARF) number 33944 and the sample numbers and requested analyses were compared to the chain of custody. The samples were removed from the shuttle by courier before the temperature was taken. The samples were received chilled, (loose ice present in the ice chest), and intact. No other exceptions were encountered.

Sample Table

| CLIENT ID | APPL ID | Matrix | Date Sampled | Date Received | Date Analyzed |
|---|---|---|---|---|---|
| CL2-MN-05 | 98947 | Water | 11/7/00 | 11/7/00 | 11/8/00 |
| BG-MW-01 | 98948 | Water | 11/7/00 | 11/7/00 | 11/8/00 |
| CL2-MP-01B | 98949 | Water | 11/7/00 | 11/7/00 | 11/8/00 |
| 99-CL-01 | 98950 | Water | 11/7/00 | 11/7/00 | 11/8/00 |
| 17-MW-15 | 98951 | Water | 11/7/00 | 11/7/00 | 11/8/00 |

**Sample Preparation:**

The samples were prepared according the method. All sample data were investigated for trace levels ranging between the PQL and current MDL of 0.0062 mg/L. All such findings were flagged with a "J" indicator.

**Analysis Information:**

**Samples:**

The samples were analyzed by EPA method 7196A.

**Calibrations:**

Calibrations were performed according to the method. No other problems were encountered.

**Blanks:**

No target compounds were detected at or above the reporting level.

**Spikes:**

The laboratory control spike and spike duplicate met all acceptance criteria. A matrix spike and matrix spike duplicate was run on sample 17-MW-15 All acceptance criteria were met for the MS/MSD.

**Summary:**

All data were acceptable.

**CERTIFICATION**

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

11-20-00

Mike Ray, Laboratory Manager/ Date

EPA METHOD 7196A
Hexavalent Chromium

**Chain of Custody and ARF**

APPL, INC.

# APPL - Analysis Request Form # 33944

Client: IT Corporation
Address: 4005 Port Chicago Highway
Concord, CA 94520-1120
Attn: Rose Condit
Phone: 925-288-2109 Fax: 925-827-2018
Job: 800063 CROWS LANDING
PO #: NA
Chain of Custody (Y/N): Y # 573649
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: NSR
Date Received: 11/7/00 Time: 17:20
Delivered by: R IRWIN
Shuttle Custody Seals (Y/N): N
Chest Temp(s): 10°C HB/C443343
Time in/Color: 1720 / BLUE
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: GLEN BROWN
QC Report Type: DVP4
Due Date: 11/19/00

Comments:
*SAMPLES WERE REMOVED FROM SHUTTLE BEFORE THE SHUTTLE COULD BE TEMPED, SAMPLES WERE CHILLED AND INTACT 11-7-00 NSR*

| | Client ID | APPL ID | Sampled | Analyses Requested |
|---|---|---|---|---|
| 1. | CL2-MN-05 | AP98947W | 11/7/00 | CR6-7 |
| 2. | BG-MW-01 | AP98948W | 11/7/00 | CR6-7 |
| 3. | CL2-MP-01B | AP98949W | 11/7/00 | CR6-7 |
| 4. | 99-CL-01 | AP98950W | 11/7/00 | CR6-7 |
| 5. | 17-MW-15 | AP98951W | 11/7/00 | CR6-7 |

Sample Distribution: Charges: Invoice To:
**Wetlab: 5-CR6-7**

the igroup

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 573649
Page 1 of 1

Project Name/No. [1] Crows Landing 800063
Sample Team Members [2] RC/B/NM
Profit Center No. [3]
Project Manager [4] B. Hulet
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 11/7/00
Lab Destination [8] APPL
Lab Contact [9] G. Brown
Project Contact/Phone [12] R. Condit
Carrier/Waybill No. [13] —

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] | Preservative [19] | Requested Testing Program [20] | Condition on Receipt [21] | Disposal Record No. [22] |
|---|---|---|---|---|---|---|---|---|
| CL2-MW-05 | Groundwater | 11/7/00 1105 | Various | | None | $Cr^{+6}$ 7196 | | |
| BG-MW-01 | | 1030 | | | | | FOR LAB USE ONLY | |
| CL2-MW-01B | | 1410 | | | | | | |
| ~~BG-MW-02~~ | | — | | | | | | |
| ~~EC-99-01~~ | | 1305 | | | | | | |
| 17 MW 15 | | 1310 | | | | | FOR LAB USE ONLY | |

Special Instructions: [23]

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 ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): Level IV

| | | | |
|---|---|---|---|
| 1. Relinquished by [28] (Signature/Affiliation) Rosemary Condit | Date: 11/7/00 Time: 1505 | 1. Received by [28] (Signature/Affiliation) | Date: 11/7/00 Time: 1505 |
| 2. Relinquished by (Signature/Affiliation) | Date: 11/7/00 Time: 1700 | 2. Received by (Signature/Affiliation) | Date: Time: |
| 3. Relinquished by (Signature/Affiliation) | Date: Time: | 3. Received by (Signature/Affiliation) | Date: 11-7-00 Time: 1700 |

Comments: [29]

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

# COOLER RECEIPT FORM

Project: 800063 Crows Landing Date Received: 11-7-00 Number of Coolers: 1

A. **PRELIMINARY EXAMINATION PHASE:** Date Cooler Opened: 11-7-00 C.O.C.# 573649

by (print) Bronson Pullen (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? YES NO NA
   If yes enter carrier name and air bill number: Hand delivered
2. Were custody seals on outside of cooler? YES NO NA
   How many? NA Date on seal? NA Name on seal? NA
3. Were custody seals unbroken and intact at the time of arrival? YES NO NA
4. Were samples screened for radioactivity? YES NO NA
5. Were custody papers sealed in a plastic bag and taped inside the lid? YES NO NA
6. Were the custody papers filled out properly? YES NO NA
7. Were the custody papers signed in the appropriate place? YES NO NA
8. Was the project identifiable from custody papers? YES NO NA
9. If required, was enough ice used? Type of ice: _____ YES NO NA
10. Shuttle temperature(s): 10° Serial number of certified thermometer used: HB/C 443343
11. Initials and date of person receiving cooler (Date) 11-7-00 (Initials): BP

B. **LOG-IN PHASE:** Date samples were logged in: 11-7-00

by (print) Nora S Rukaleche (sign) [signature]

1. Describe type of packing in cooler: Hand delivered
2. Were all bottles sealed in separate bags? YES NO NA
3. Did all bottles arrive unbroken and were labels in good condition? YES NO NA
4. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO NA
5. Did all bottle labels agree with custody papers? YES NO NA
6. Were correct containers used for the tests indicated? YES NO NA
7. Were correct preservatives added to the samples? YES NO NA
8. Was a sufficient amount of sample sent for tests indicated? YES NO NA
9. Were bubbles absent in volatile samples? If no, list by sample ID_____ YES NO NA
10. Was a sufficient amount of holding time remaining to analyze the samples? YES NO NA
11. Is location where sample was taken listed on the COC? YES NO NA

Comments: Samples were removed from cooler before a temperature could be taken properly BP 11-7-00

Name of project manager notified_____ Date and Time of notification_____

Name of client notified_____ Date and Time of notification_____

Information given to client_____ By whom (Initials):_____

EPA METHOD 7196A
Hexavalent Chromium

**Sample Data**

APPL, INC.

# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL2-MN-05**

Sample Collection Date: 11/7/00

**APPL ID: AP98947**

ARF: 33944

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.021 | 0.02 | mg/L | 11/8/00 | 11/8/00 |



*Printed: 11/17/00 1:53:12 PM*

# Wet Lab Analysis

IT Corporation
4005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: BG-MW-01**

Sample Collection Date: 11/7/00

**APPL ID: AP98948**

ARF: 33944

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/8/00 | 11/8/00 |



*Printed: 11/17/00 1:53:12 PM*

# Wet Lab Analysis

IT Corporation
1005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL2-MP-01B**

Sample Collection Date: 11/7/00

**APPL ID: AP98949**

ARF: 33944

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.007 J | 0.02 | mg/L | 11/8/00 | 11/8/00 |

J = Estimated value, below quantitation limit.

017 A

*Printed: 11/20/00 04:42:37 PM*

# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 99-CL-01**

Sample Collection Date: 11/7/00

**APPL ID: AP98950**

ARF: 33944

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/8/00 | 11/8/00 |



*Printed: 11/17/00 1:53:13 PM*

# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 17-MW-15**

Sample Collection Date: 11/7/00

**APPL ID: AP98951**

ARF: 33944

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/8/00 | 11/8/00 |



*Printed: 11/17/00 1:53:13 PM*

# EPA METHOD 7196A
# Hexavalent Chromium

APPL, INC.

# Data Validation Package
# for

# EPA METHOD 7196A
# Hexavalent Chromium

## TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*


| | |
|---|---|
| Case Narrative | 3 |
| Chain of Custody and ARF | 6 |
| QC Summary | 11 |
| Sample Data | 16 |
| Calibration Data | 27 |
| Raw Data | 29 |


APPL, INC.

# EPA METHOD 7196A
# Hexavalent Chromium

## Case Narrative

APPL, INC.

# Case Narrative
# EPA METHOD 7196A
# Hexavalent Chromium
APPL, Inc. State Certification No. CA1312

ARF: 33973

Project: 800063 CROWS LANDING

**Sample Receipt Information:**

The sample group was assigned Analytical Request Form (ARF) number 33973 and the sample numbers and requested analysis were compared to the chains of custody. No exceptions were encountered.

Sample Table

| CLIENT ID | APPL ID | Matrix | Date Sampled | Date Received | Date Analyzed |
|---|---|---|---|---|---|
| 117-MW-105 | 99070 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| CL2-MW-04 | 99071 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| 11-MW-04 | 99072 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| CL-99-2 | 99073 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| CL1-MW-09(MS) | 99074 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| 11-MW-06 | 99075 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| CL1-MW-13 | 99076 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| MW-117-4 | 99077 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| CL1-MW-4 | 99078 | Water | 11/9/00 | 11/9/00 | 11/10/00 |
| CL1-MW-2 | 99079 | Water | 11/9/00 | 11/9/00 | 11/10/00 |

**Sample Preparation:**

The samples were prepared according to the method. All sample data were investigated for trace levels ranging between the PQL and current MDL of 0.0062 mg/L. All such findings were flagged with a "J" indicator.

**Analysis Information:**

**Samples:**

The samples were analyzed by EPA method 7196A.

**Calibrations:**

Calibrations were performed according to the method. No other problems were encountered.

**Blanks:**

No target compounds were detected at or above the reporting level.

**Spikes:**

The laboratory control spike and spike duplicate met all acceptance criteria. A matrix spike and matrix spike duplicate was run on sample CL2-MW-04. All acceptance criteria were met for the MS/MSD.

**Summary:**

All data were acceptable.

**CERTIFICATION**

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Glen Farrow 11/21/00

Mike Ray, Laboratory Manager/ Date

EPA METHOD 7196A
Hexavalent Chromium

**Chain of Custody and ARF**

APPL, INC.

# APPL - Analysis Request Form # 33973

Client: IT Corporation
Address: 4005 Port Chicago Highway
Concord, CA 94520-1120
Attn: Rose Condit
Phone: 925-288-2109 Fax: 925-827-2018
Job: 800063 CROWS LANDING
PO #: NA
Chain of Custody (Y/N): Y # 573654
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: NSR
Date Received: 11/9/00 Time: 16:30
Delivered by: SAME DAY EXPRE
Shuttle Custody Seals (Y/N): N
Chest Temp(s): 3°C HB/C443343
Time in/Color: 1720 / BLUE
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: GLEN BROWN
QC Report Type: DVP4
Due Date: 11/21/00

Comments:

| | Client ID | | APPL ID | Sampled | Analyses Requested |
|---|---|---|---|---|---|
| 1. | 117-MW-105 | | AP99070W | 11/9/00 | CR6-7 |
| 2. | CL2-MW-04 | MS/MSD | AP99071W AB | 11/9/00 | CR6-7 |
| 3. | 11-MW-04 | | AP99072W | 11/9/00 | CR6-7 |
| 4. | CL-99-2 | | AP99073W | 11/9/00 | CR6-7 |
| 5. | CL1-MW-09(MS) | | AP99074W | 11/9/00 | CR6-7 |
| 6. | 11-MW-06 | | AP99075W | 11/9/00 | CR6-7 |
| 7. | CL1-MW-13 | | AP99076W | 11/9/00 | CR6-7 |
| 8. | MW-117-4 | | AP99077W | 11/9/00 | CR6-7 |
| 9. | CL1-MW-4 | | AP99078W | 11/9/00 | CR6-7 |
| 10. | CL1-MW-2 | | AP99079W | 11/9/00 | CR6-7 |

Sample Distribution:
**Wetlab: 10-CR6-7**

Charges:

Invoice To:



Printed 11/10/00 08:34:34
11/10/00
858



.007

the igroup

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 573654
Page 1 of 2

Project Name/No. [1] Crows Landing 800063
Sample Team Members [2] RC/JA/BS
Profit Center No. [3]
Project Manager [4] B. Holet
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 11/9/00
Lab Destination [8] APPL
Lab Contact [9] B. Brown
Project Contact/Phone [12] R. Condit
Carrier/Waybill No. [13] Courier

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] |
|---|---|---|---|---|---|---|---|---|
| 117-MW-10S | | 11/9/00 655 | HDPE | 250ml | None | Cr+6 7196 | | |
| CL2-MW-04 | | 750 | | | | | * Use for this FOR LAB USE ONLY | |
| 11-MW-09 (MS) | | 910 | | | | | | |
| CL-99-2 | | 925 | | | | | | |
| CL1-MW-09 (MD) | | 925 | | | | | FOR LAB USE ONLY | |
| 11-MW-06 | | 1045 | | | | | | |
| CL1-MW-13 | | 1230 | | | | | | 003 |
| MW 117-4 | | 1200 | | | | | | |

Special Instructions: [23] Level III Report

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 ☐

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

| | | | |
|---|---|---|---|
| 1. Relinquished by [28] (Signature/Affiliation) Rosemary Condit | Date: 11/9/00 Time: | 1. Received by [28] (Signature/Affiliation) Courier | Date: 11/9/00 Time: |
| 2. Relinquished by (Signature/Affiliation) | Date: Time: | 2. Received by (Signature/Affiliation) | Date: Time: |
| 3. Relinquished by (Signature/Affiliation) Same Day Express | Date: Time: | 3. Received by (Signature/Affiliation) | Date: 11-9-00 Time: 1630 |

Comments: [29]

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

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 573654
Page 2 of 2

Project Name Crows Landing

Project No. 800063

Samples Shipment Date 11/9/00

**ONE CONTAINER PER LINE**

| Sample[14] Number | Sample[15] Description/Type | Date/Time[16] Collected | Container[17] Type | Sample[18] Volume | Pre-[19] servative | Requested Testing[20] Program | Condition on[21] Receipt | Disposal[22] Record No. |
|---|---|---|---|---|---|---|---|---|
| CL1-MW-4 | Groundwater | 11/9/00 1330 | HDPE | 250ml | 100ml | Cr+6 9196 | | |
| CL1-MW-2 | " | " 1404 | " | " | " | " " | | |
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Yellow: Field copy
*See back of form for special instructions.

EPA METHOD 7196A
Hexavalent Chromium

**Sample Data**

APPL, INC.

# Wet Lab Analysis

IT Corporation
1005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 117-MW-105**

Sample Collection Date: 11/9/00

**APPL ID: AP99070**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/10/00 | 11/10/00 |



*Printed: 11/17/00 3:12:06 PM*

# Wet Lab Analysis

IT Corporation
1005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL2-MW-04**

Sample Collection Date: 11/9/00

**APPL ID: AP99071**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.013J | 0.02 | mg/L | 11/10/00 | 11/10/00 |

J = Estimated value, below quantitation limit.



*Printed: 11/17/00 3:12:06 PM*

# Wet Lab Analysis

IT Corporation
005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 11-MW-04**

Sample Collection Date: 11/9/00

**APPL ID: AP99072**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.054 | 0.02 | mg/L | 11/10/00 | 11/10/00 |



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# Wet Lab Analysis

IT Corporation
'005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL-99-2**

Sample Collection Date: 11/9/00

**APPL ID: AP99073**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/10/00 | 11/10/00 |



*Printed: 11/17/00 3:12:07 PM*

# Wet Lab Analysis

IT Corporation
005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL1-MW-09(MS)**

Sample Collection Date: 11/9/00

**APPL ID: AP99074**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/10/00 | 11/10/00 |



*Printed: 11/17/00 3:12:07 PM*

# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 11-MW-06**

Sample Collection Date: 11/9/00

**APPL ID: AP99075**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.018 J | 0.02 | mg/L | 11/10/00 | 11/10/00 |

J - Estimated value, below quantitation limit.



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# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL1-MW-13**

Sample Collection Date: 11/9/00

**APPL ID: AP99076**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.014 J | 0.02 | mg/L | 11/10/00 | 11/10/00 |

J Estimated value, below quantitation limit.



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# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: MW-117-4**

Sample Collection Date: 11/9/00

**APPL ID: AP99077**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.020 | 0.02 | mg/L | 11/10/00 | 11/10/00 |



*Printed: 11/17/00 3:12:08 PM*

# Wet Lab Analysis

IT Corporation
1005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL1-MW-4**

Sample Collection Date: 11/9/00

**APPL ID: AP99078**

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/10/00 | 11/10/00 |



*Printed: 11/17/00 3:12:08 PM*

# Wet Lab Analysis

IT Corporation
'005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

Sample ID: CL1-MW-2

Sample Collection Date: 11/9/00

APPL ID: AP99079

ARF: 33973

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/10/00 | 11/10/00 |



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# EPA METHOD 7196A
# Hexavalent Chromium

APPL, INC.

# Data Validation Package
# for

# EPA METHOD 7196A
# Hexavalent Chromium

## TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*


| | |
|---|---|
| Case Narrative | 3 |
| Chain of Custody and ARF | 6 |
| QC Summary | 11 |
| Sample Data | 16 |
| Calibration Data | 26 |
| Raw Data | 28 |


APPL, INC.

# EPA METHOD 7196A
# Hexavalent Chromium

## Case Narrative

APPL, INC.

# Case Narrative
# EPA METHOD 7196A
# Hexavalent Chromium
## APPL, Inc. State Certification No. CA1312

ARF: 33956

Project: 800063 CROWS LANDING

**Sample Receipt Information:**

The sample group was assigned Analytical Request Form (ARF) number 33956 and the sample numbers and requested analysis were compared to the chains of custody. No exceptions were encountered.

Sample Table

| CLIENT ID | APPL ID | Matrix | Date Sampled | Date Received | Date Analyzed |
|---|---|---|---|---|---|
| 17-MW-16 | 98996 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| 117-MW-10(MD) | 98997 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| BG-MW-02 | 98998 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| 17-MW-08 | 98999 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| BG-MW-03 | 99000 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| 17-MW-02 | 99001 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| 117-MW-12 | 99002 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| CL-99-03 | 99003 | Water | 11/8/00 | 11/8/00 | 11/9/00 |
| 109-MW-01 | 99004 | Water | 11/8/00 | 11/8/00 | 11/9/00 |

**Sample Preparation:**

The samples were prepared according to the method.

**Analysis Information:**

**Samples:**

The samples were analyzed by EPA method 7196A. Sample BG-MW-02 was analyzed one hour past hold time. Rose Condit was notified and okayed continuing with the analysis. All sample data were investigated for trace levels ranging between the PQL and current MDL of 0.0062 mg/L. All such findings were flagged with a "J" indicator.

**Calibrations:**

Calibrations were performed according to the method. No other problems were encountered.

**Blanks:**

No target compounds were detected at or above the reporting level.

**Spikes:**

The laboratory control spike and spike duplicate met all acceptance criteria. A matrix spike and matrix spike duplicate was run on sample 109-MW-01. All acceptance criteria were met for the MS/MSD.

**Summary:**

All data were acceptable.

**CERTIFICATION**

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Mike Ray 11-20-00

Mike Ray, Laboratory Manager/ Date

EPA METHOD 7196A
Hexavalent Chromium

**Chain of Custody and ARF**

APPL, INC.

# APPL - Analysis Request Form # 33956

Client: IT Corporation
Address: 4005 Port Chicago Highway
Concord, CA 94520-1120
Attn: Rose Condit
Phone: 925-288-2109 Fax: 925-827-2018
Job: 800063 CROWS LANDING
PO #: NA
Chain of Custody (Y/N): Y # 573652
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: NSR
Date Received: 11/8/00 Time: 16:51
Delivered by: SAME DAY EXP
Shuttle Custody Seals (Y/N): N
Chest Temp(s): 3°C HB/C 443343
Time in/Color: 1755 / BLUE
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: GLEN BROWN
QC Report Type: DVP4
Due Date: 11/20/00

Comments:

| | Client ID | APPL ID | Sampled | Analyses Requested |
|---|---|---|---|---|
| 1. | 17-MW-16 | AP98996W | 11/8/00 | CR6-7 |
| 2. | 117-MW-10(MD) | AP98997W | 11/8/00 | CR6-7 |
| 3. | BG-MW-02 | AP98998W | 11/8/00 | CR6-7 |
| 4. | 17-MW-08 | AP98999W | 11/8/00 | CR6-7 |
| 5. | BG-MW-03 | AP99000W | 11/8/00 | CR6-7 |
| 6. | 17-MW-02 | AP99001W | 11/8/00 | CR6-7 |
| 7. | 117-MW-12 | AP99002W | 11/8/00 | CR6-7 |
| 8. | CL-99-03 | AP99003W | 11/8/00 | CR6-7 |
| 9. | 109-MW-01 | AP99004W | 11/8/00 | CR6-7 |

Sample Distribution:
Wetlab: 9-CR6-7

Charges:

Invoice To:

the i group

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 573652
Page 1 of 2

Project Name/No. 1 Crows Landing 800063
Sample Team Members 2 BS/RC/NM
Profit Center No. 3
Project Manager 4 B. Holet
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 11/8/00
Lab Destination 8 APPL
Lab Contact 9 G. Brown
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5 IT - Concord
Report to: 10 IT - Concord

**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 |
|---|---|---|---|---|---|---|---|---|
| 17-MW-16 | Groundwater | 11/8/00 720 | HDPE | 250ml | None | Cr+6 7196 | | |
| 117-MW-10(NO) | | 950 | | | | | FOR LAB USE ONLY | |
| B6-MW-02 | | 600 | | | | | | |
| 17-MW-08 | | 1150 | | | | | | |
| B6-MW-03 | | 750 | | | | | FOR LAB USE ONLY | |
| 17-MW-02 | | 940 | | | | | | |
| 117-MW-12 | | 1224 | | | | | | |
| CL-99-03 | | 1400 | | | | | | |

Special Instructions: 23

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 ☐

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

| | | | |
|---|---|---|---|
| 1. Relinquished by 28 (Signature/Affiliation) [signature] | Date: 11/8/00 Time: | 1. Received by 28 (Signature/Affiliation) [signature] | Date: 11/8/00 Time: |
| 2. Relinquished by (Signature/Affiliation) | Date: Time: | 2. Received by (Signature/Affiliation) | Date: Time: |
| 3. Relinquished by (Signature/Affiliation) Same Day Express | Date: Time: | 3. Received by (Signature/Affiliation) [signature] | Date: 11/8/00 Time: 1651 |

Comments: 29

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 573652

Page 2 of 2

Project Name 800063

Project No. Crows Landing

Samples Shipment Date 11/8

**ONE CONTAINER PER LINE**

| Sample[14] Number | Sample[15] Description/Type | Date/Time[16] Collected | Container[17] Type | Sample[18] Volume | Pre-[19] servative | Requested Testing[20] Program | Condition on[21] Receipt | Disposal[22] Record No. |
|---|---|---|---|---|---|---|---|---|
| 109-MW-01 | | 11/8/10/1350 | 2x250 | 500ml | — | Cr+6 | Use for MS/MSD | |
| | | | | | | | FOR LAB USE ONLY | |
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White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

600

EPA METHOD 7196A
Hexavalent Chromium

**Sample Data**

APPL, INC.

# Wet Lab Analysis

IT Corporation
1005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 17-MW-16**

Sample Collection Date: 11/8/00

**APPL ID: AP98996**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/9/00 | 11/9/00 |



*Printed: 11/17/00 3:03:03 PM*

# Wet Lab Analysis

IT Corporation
'05 Port Chicago Highway
oncord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

Sample ID: 117-MW-10(MD)

Sample Collection Date: 11/8/00

APPL ID: AP98997

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.021 | 0.02 | mg/L | 11/9/00 | 11/9/00 |



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# Wet Lab Analysis

IT Corporation
005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: BG-MW-02**

Sample Collection Date: 11/8/00

**APPL ID: AP98998**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | Not detected | 0.02 | mg/L | 11/9/00 | 11/9/00 |



*Printed: 11/17/00 3:03:04 PM*

# Wet Lab Analysis

IT Corporation
'005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 17-MW-08**

Sample Collection Date: 11/8/00

**APPL ID: AP98999**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.025 | 0.02 | mg/L | 11/9/00 | 11/9/00 |



*Printed: 11/17/00 3:03:04 PM*

# Wet Lab Analysis

IT Corporation
005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: BG-MW-03**

Sample Collection Date: 11/8/00

**APPL ID: AP99000**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.021 | 0.02 | mg/L | 11/9/00 | 11/9/00 |



*Printed: 11/17/00 3:03:04 PM*

# Wet Lab Analysis

IT Corporation
005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 17-MW-02**

Sample Collection Date: 11/8/00

**APPL ID: AP99001**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.019J | 0.02 | mg/L | 11/9/00 | 11/9/00 |

J = Estimated value, below quantitation limit.



*Printed: 11/17/00 3:03:04 PM*

# Wet Lab Analysis

IT Corporation
)05 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 117-MW-12**

Sample Collection Date: 11/8/00

**APPL ID: AP99002**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.0092 J | 0.02 | mg/L | 11/9/00 | 11/9/00 |

J – Estimated value, below quantitation limit.



*Printed: 11/17/00 3:03:05 PM*

# Wet Lab Analysis

IT Corporation
'005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: CL-99-03**

Sample Collection Date: 11/8/00

**APPL ID: AP99003**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.019 J | 0.02 | mg/L | 11/9/00 | 11/9/00 |

J = Estimated value, below quantitation limit.



*Printed: 11/17/00 3:03:05 PM*

# Wet Lab Analysis

IT Corporation
1005 Port Chicago Highway
Concord, CA 94520-1120

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Rose Condit

Project: 800063 CROWS LANDING

**Sample ID: 109-MW-01**

Sample Collection Date: 11/8/00

**APPL ID: AP99004**

ARF: 33956

| Method | Analyte | Result | PQL | Units | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|
| SW846 7196A | Hexavalent Chromium | 0.016J | 0.02 | mg/L | 11/9/00 | 11/9/00 |

J = Estimated value, below quantitation limit.



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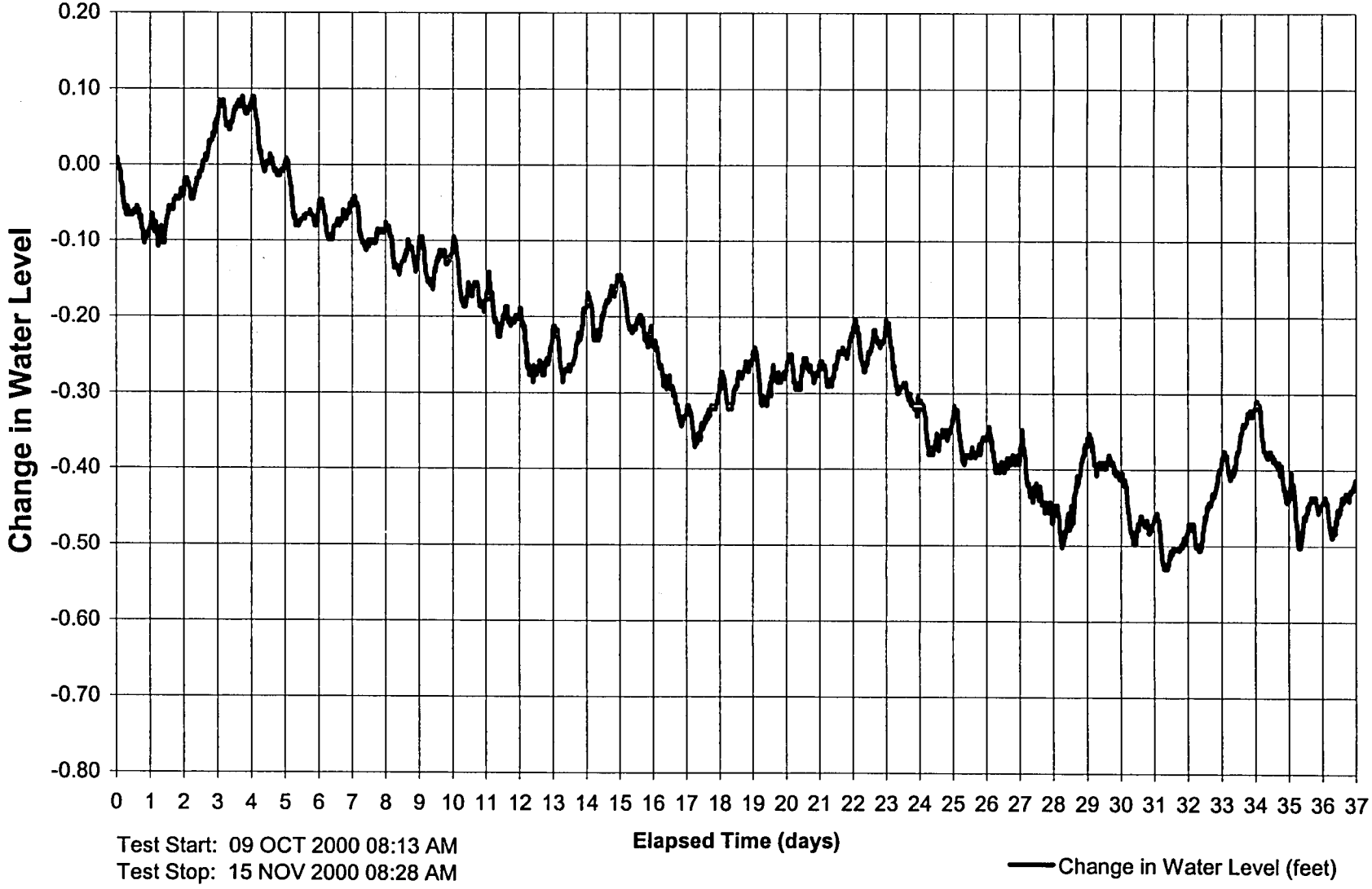
# APPENDIX C
# BASEWIDE WATER LEVEL MONITORING RESULTS

# CL1-MW-10S

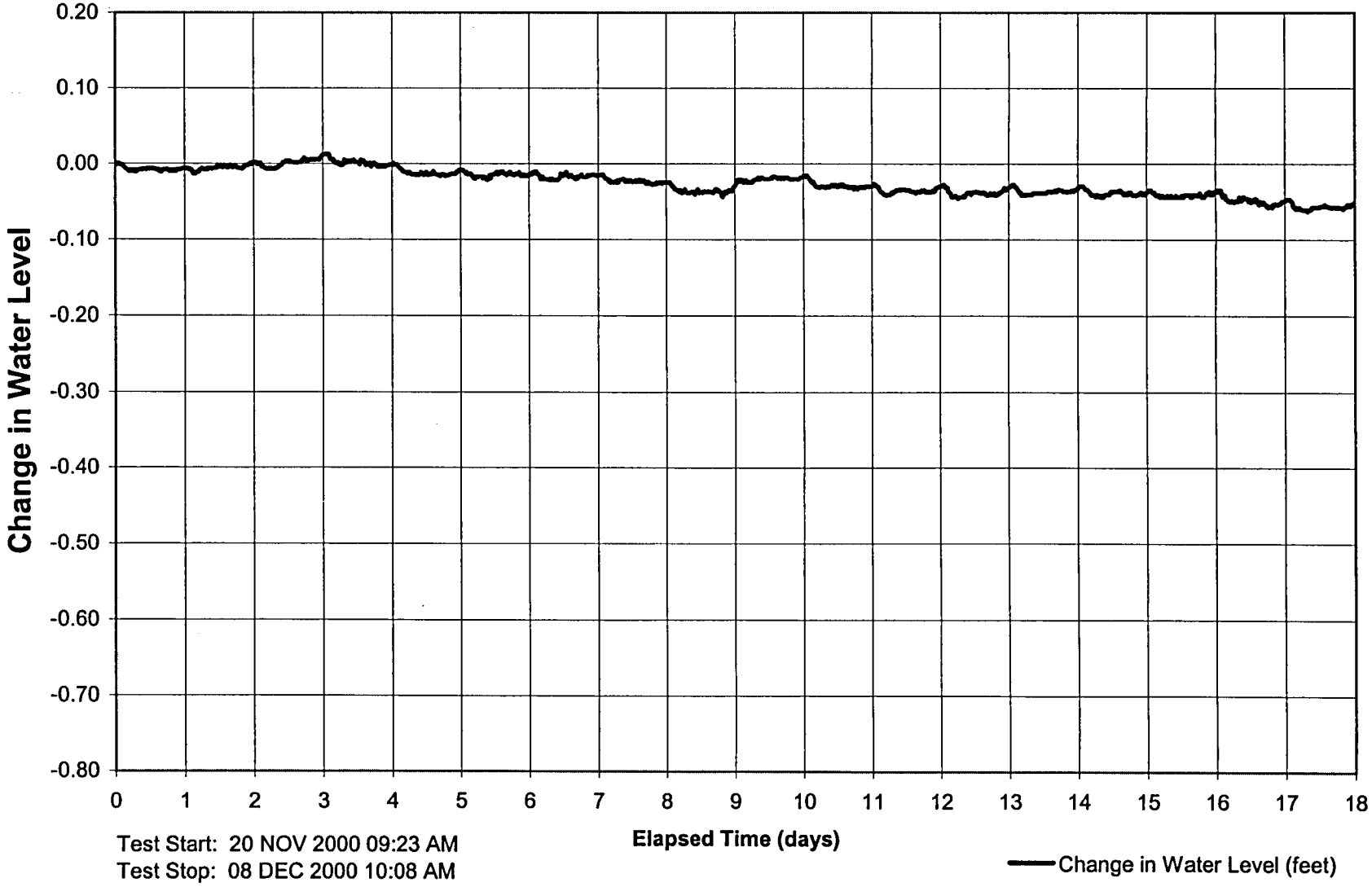



Test Start: 09 OCT 2000 08:13 AM
Test Stop: 15 NOV 2000 08:28 AM

# CL2-MP-03B

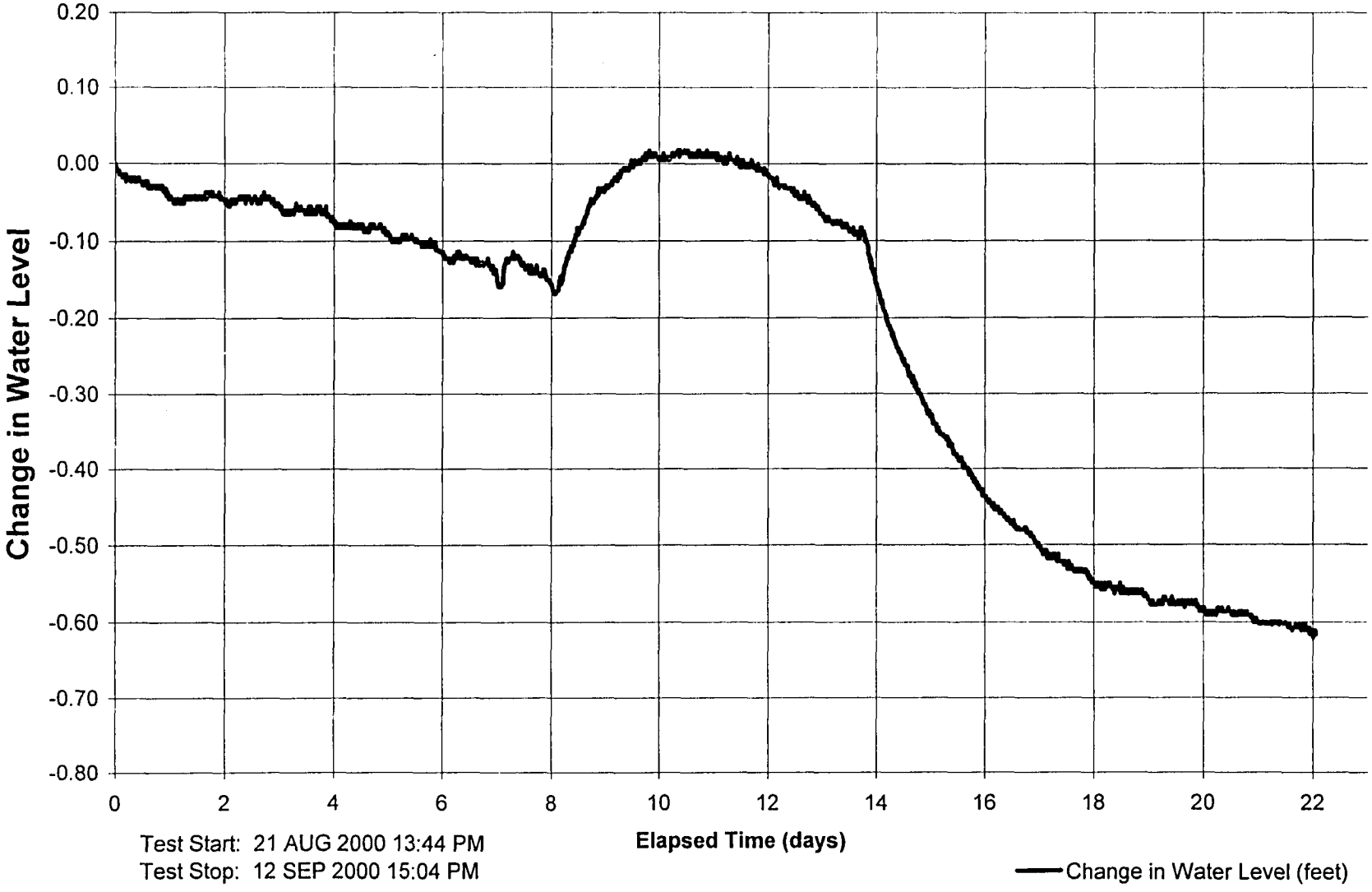
Test Start: 12 SEP 2000 15:42 PM
Test Stop: 09 OCT 2000 07:27 AM

# 11-MW-04




Test Start: 20 NOV 2000 09:23 AM
Test Stop: 08 DEC 2000 10:08 AM

# CL2-MW-05 (SM)


0.20
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
Change in Water Level
0
2
4
6
8
10
12
14
16
18
20
22
Elapsed Time (days)
Test Start: 21 AUG 2000 13:44 PM
Test Stop: 12 SEP 2000 15:04 PM
Change in Water Level (feet)

# APPENDIX D
# SUPPLEMENTAL INFORMATION:
# PREVIOUS GROUNDWATER ANALYTICAL RESULTS

# Groundwater Analytical Results Summary

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: BG-MW-01
Date Constructed: June 1994
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 167.34
Screened Interval (feet below ground surface): 84-104

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Mar-95 | 0.5 U | 1 U | 0.5 U | NA | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 2 U | 2 U | 2 U | 50 U | 100 U | 0.2 J | 2 U | 0.5 J | 3 |
| Feb-97 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nov-97 | NA | NA | NA | 50 U | 100 U | NA | NA | NA | NA |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: BG-MW-02
Date Constructed: June 1994
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 171.34
Screened Interval (feet below ground surface): 80-100

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Mar-95 | 0.5 U | 1 U | 0.5 U | NA | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 2 U | 2 U | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: BG-MW-03
Date Constucted: June 1994
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 153.19
Screened Interval (feet below ground surface): 64-84

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Mar-95 | 0.5 U | 1 U | 0.5 U | NA | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 2 U | 2 U | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 2 U | 5 U | 2 U | 50 U | 100 U | 2 U | 5 U | 5 U | 5 U |
| May-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 11-MW-03
Date Constructed: October 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 141.39
Screened Interval (feet below ground surface): 50-75

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 50 U | 100 U | 2 | 1 U | 1 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | 100U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 11-MW-04
Date Constructed: October 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 138.35
Screened Interval (feet below ground surface): 50-75

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 50 U | 100 U | 1 | 1 U | 1 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | 100U | NA | NA | NA | NA |
| Nov-97 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 11-MW-05
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 144.04
Screened Interval (feet below ground surface): 51-76

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 100J-K | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 50 UJ-K | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 50 U | 100 U | 0.7 | 1 U | 1 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | 100U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 11-MW-06
Date Constructed: April 1996
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 142.39
Screened Interval (feet below ground surface): 50-75

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| May-96 | 50 U | 110 Z | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | 100U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | NA | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 17-MW-01
Date Constructed: June 1994
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 142.61
Screened Interval (feet below ground surface): 50-70

| Date | Carb Tet | Chloro | [illegible] |
|---|---|---|---|
| Jun-94 | 50 D | 5 | |
| Sep-94 | 32 D | 5 UJ-B | |
| Dec-94 | 32 D | 4 | |
| Mar-95 | 30 D | 3 | |
| May-96 | 28 D | 4 | |
| Aug-96 | 23 | 4 | |
| Nov-96 | 24 | 3 | |
| Feb-97 | 24 | 2 | |
| May-97 | 19 | 3 | |
| Aug-97 | 18 | 2 | |
| Nov-97 | 14 | 2 J | |
| Mar-98 | 28 | 2 | |

Well Number: 17-MW-02
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 141.96
Screened Interval (feet below ground surface): 50-75

| Date | Carb Tet | Chloro | TPH-P | TPH-E | Benzene | Toluene | Ethlyben | Xylenes |
|---|---|---|---|---|---|---|---|---|
| Dec-95 | 330D | 24 | NA | 100 U | .05 U | 1 U | 1 U | 1 U |
| May-96 | 390D | 25 D | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Aug-96 | 210D | 24 | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Nov-96 | 270D | 23 | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 370D | 24 | 50 U | 100 U | 2 U | 5 U | 5 U | 5 U |
| May-97 | 220 D | 25 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 290 D | 29 J-LS | 160 Z | 100 U | 0.5 UJ-L | 2 UJ-L | 2 UJ-L | 2 UJ-L |
| Nov-97 | 320 D | 25 | 110 Z | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 310 D | 23 | 88 Z | 100 U | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 17-MW-03
Date Constructed: November 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 142.00
Screened Interval (feet below ground surface): 100-110

| Date | Carb. Tet | Chloro. | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|---|---|
| Dec-95 | 390 D | 24 | NA | 100 U | .05 U | 1 U | 1 U | 1 U |
| May-96 | 420 D | 18 | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Aug-96 | 400 D | 12 | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Nov-96 | 260 | 11 J | 50 UJ-H | 100 U | 100 U | 100 U | 100 U | 100 U |
| Feb-97 | 530 D | 16 | 50 U | 240 Z | 2 U | 5 U | 5 U | 5 U |
| May-97 | 340 D | 14 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 290 D | 29 J-LS | 160 Z | 100 U | 0.5 UJ-L | 200 UJ-L | 2 UJ-L | 2 UJ-L |
| Nov-97 | 580 D | 16 | 230 | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 420 D | 16 | 85 Z | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 17-MW-04
Date Constructed: October 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 141.62
Screened Interval (feet below ground surface): 50-75

| Date | Carb. Tet | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 20 | 3 | 0.5 U | NA | 130 Z | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 14 | 3 | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 21 | 3 | 0.5 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 19 | 3 | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 22 | 3 | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 18 | 3 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 15 | 3 | 0.5 U | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 13 | 2 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 12 | 2 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 17-MW-05
Date Constructed: October 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 141.61
Screened Interval (feet below ground surface): 95-105

| Date | Carb. Tet | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 26 D | 6 | 0.5 U | NA | 120 Z | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 38 J-K | 7 | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 36 D | 9 | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 36 | 10 | 2 U | 50 U | 100 U | 0.8 J | 2 U | 2 U | 2 U |
| Feb-97 | 33 D | 12 | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 32 | 13 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 28 | 12 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 32 | 10 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 29 | 11 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 17-MW-06
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 140.74
Screened Interval (feet below ground surface): 49-74

| Date | Carb. Tet. | Chloro. | |
|---|---|---|---|
| Dec-95 | 0.7 | 1 U | |
| May-96 | 2 | 1 U | |
| Aug-96 | 3 | 1 U | |
| Nov-96 | 2 J | 0.2 J | |
| Feb-97 | 2 | 1 U | |
| May-97 | 3 | 2 U | |
| Aug-97 | 3 | 0.4 J | |
| Nov-97 | 4 | 0.4 J | |
| Mar-98 | 4 | 0.6 J | |

Well Number: 17-MW-07
Date Constructed: November 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 140.79
Screened Interval (feet below ground surface): 115-125

| Date | Carb. Tet. | Chloro. | |
|---|---|---|---|
| Dec-95 | 0.5 U | 1 U | |
| May-96 | 0.5 U | 1 U | |
| Aug-96 | 0.8 | 1 U | |
| Nov-96 | 1 J | 0.3 J | |
| Feb-97 | 3 | 1 U | |
| May-97 | 3 | 2 U | |
| Aug-97 | 1 | 0.2 J | |
| Nov-97 | 3 | 2 U | |
| Mar-98 | 0.9 | 2 U | |

Well Number: 17-MW-08
Date Constructed: December 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 138.23
Screened Interval (feet below ground surface): 50-75

| Date | Carb. Tet. | Chloro. | |
|---|---|---|---|
| Dec-95 | 2 | 1 U | |
| May-96 | 1 | 1 U | |
| Aug-96 | 1 | 1 U | |
| Nov-96 | 2 J | 2 U | |
| Feb-97 | 2 | 1 U | |
| May-97 | 1 | 2 U | |
| Aug-97 | 2 | 2 U | |
| Nov-97 | 1 | 2 U | |
| Mar-98 | 6 | 2 U | |

Well Number: 17-MW-09
Date Constructed: December 1995
Aquifer Zone: Mid-Shallow
Measuring Point Elevation (feet above mean sea level): 138.27
Screened Interval (feet below ground surface): 104-114

| Date | Carb Tet | Chloro | |
|---|---|---|---|
| Dec-95 | 2 | 1 U | |
| May-96 | 2 | 1 U | |
| Aug-96 | 3 | 1 U | |
| Nov-96 | 2 J | 2 U | |
| Feb-97 | 2 | 1 U | |
| May-97 | 2 | 2 U | |
| Aug-97 | 2 | 2 U | |
| Nov-97 | 2 | 2 U | |
| Mar-98 | 2 | 2 U | |

Well Number: 17-MW-10
Date Constructed: November 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 138.76
Screened Interval (feet below ground surface): 94-104

| Date | Carb Tet | Chloro | |
|---|---|---|---|
| Dec-95 | 7 | 0.9 J | |
| May-96 | 4 | 1 U | |
| Aug-96 | 4 | 1 U | |
| Nov-96 | 4 | 0.7 J | |
| Feb-97 | 2 | 1 U | |
| May-97 | 2 | 0.5 J | |
| Aug-97 | 2 | 0.6 J | |
| Nov-97 | 2 | 0.3 J | |
| Mar-98 | 18 | 0.6 J | |

Well Number: 17-MW-11
Date Constructed: October 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 135.90
Screened Interval (feet below ground surface): 100-110

| Date | Carb Tet | Chloro | |
|---|---|---|---|
| Dec-95 | 3 | 2 | |
| May-96 | 0.6 | 2 | |
| Aug-96 | 1 | 2 | |
| Nov-96 | 2 J | 1 J | |
| Feb-97 | 1 | 0.9 J | |
| May-97 | 2 | 0.8 J | |
| Aug-97 | 1 | 0.9 J | |
| Nov-97 | 2 | 0.4 J | |
| Mar-98 | 1 | 1 J | |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 17-MW-12
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 144.10
Screened Interval (feet below ground surface): 49-74

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 0.5 U | 20 | 0.5 U | NA | 750 Y | 1200 D | 2 | 1 U | 1U |
| May-96 | 0.5 U | 22 | 0.5 U | 1300 Z | 420 Y | 830 D | 0.8 J | 1 U | 1U |
| Aug-96 | 12 U | 19 J | 12 U | 2100 Z | 690 Y | 1300 D | 25 U | 25 U | 25U |
| Nov-96 | 2 U | 22 | 28 | 1700 Z | 370 Y | 1300 J-H | 0.7 J | 2 U | 2U |
| Feb-97 | 12 U | 25 | 55 | 1300 Z | 1400 Y | 2100 D | 25 U | 25 U | 25U |
| May-97 | 22 | 2 U | 29 | 2800 | 890 Y | 1300 D | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 21 | 0.5 U | 2200 Z | 380 Y | 1000 D | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 20 | 56 D | 1900 Z | 770 Y | 1700 D | 0.5 J | 2 U | 2 U |
| Mar-98 | 0.5 U | 30 | 82 D | 820 Y | 810 Y | 2600 D | 2 U | 2 U | 2 U |

Well Number: 17-MW-13
Date Constructed: November 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 144.04
Screened Interval (feet below ground surface): 95-105

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 0.5U | 4 | 0.5U | NA | 2400Y | 900D | 1U | 1U | 0.9 J |
| May-96 | 0.5U | 0.8J | 0.5U | 1400Z | 2000Y | 830D | 1U | 1U | 1 U |
| Aug-96 | 0.5U | 0.9J | 9 | 650Z | 2000Y | 170D | 1U | 1U | 1 U |
| Nov-96 | 2U | 1J | 16 | 1300JS | 2400Y | 750D | 0.6J | 2U | 2 J |
| Feb-97 | 0.5U | 1 | 9 | 670Z | 5900 | 210E | 1U | 1U | 1 U |
| May-97 | 0.5U | 2 J | 11 | 650 | 10000Y | 180 D | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 2 | 9 | 820 Z | 3500 DY | 160 D | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 2 | 0.5 U | 380 Z | 5600 EY | 67 D | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 1 J | 2 | 190 Y | 4000 DY | 5 | 2 U | 2 U | 2 U |

Well Number: 17-MW-14
Date Constructed: April 1996
Aquifer Zone: Mid-deep
Measuring Point Elevation (feet above mean sea level): 141.52
Screened Interval (feet below ground surface): 170-180

| Date | Carb. Tet. | Chloro. | TPH-P | TPH-E | Benzene | Toluene | Ethlyben. | Xylenes |
|---|---|---|---|---|---|---|---|---|
| Apr-96 | 1 | 1 U | NA | NA | .05 U | 1 U | 1 U | 1 U |
| May-96 | 2 | 1 U | 50 UJ-K | 100 U | .05 U | 1 U | 1 U | 1 U |
| Aug-96 | 4 | 1 U | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Nov-96 | 3 | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 0.9 | 1 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 5 | 2 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 6 | 2 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 5 | 2 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 4 | 2 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 17-MW-15
Date Constructed: April 1996
Aquifer Zone: Deep
Measuring Point Elevation (feet above mean sea level): 142.00
Screened Interval (feet below ground surface): 260-270

| Date | Carb. Tet. | Chloro. | TPH-P | TPH-E | Benzene | Toluene | Ethlyben. | Xylenes |
|---|---|---|---|---|---|---|---|---|
| Apr-96 | 0.5 U | 1 U | NA | NA | .05 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Aug-96 | 3 | 1 U | 50 U | 100 U | .05 U | 1 U | 1 U | 1 U |
| Nov-96 | 6 | 2 U | 50 U | 100 U | 2 U | 0.3 J | 2 U | 2 U |
| Feb-97 | 6 | 1 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 6 | 2 U | 50 U | 360 Z | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 6 | 2 U | 50 U | 140 Z | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 5 | 2 U | 50 U | 240 Z | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 4 | 2 U | 50 U | 310 Z | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 17-MP-03A
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 141.73
Screened Interval (feet below ground surface): 35-65

| Date | Carb. Tet. | Chloro. | |
|---|---|---|---|
| Aug-97 | 110 D | 21 | |
| Nov-97 | 130 D | 24 | |
| Mar-98 | 140 D | 23 | |

Well Number: 17-MP-03B
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 141.71
Screened Interval (feet below ground surface): 69-79

| Date | Carb. Tet. | Chloro. | |
|---|---|---|---|
| Aug-97 | 140 D | 18 | |
| Nov-97 | 280 D | 18 | |
| Mar-98 | 360 D | 22 | |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 17-MP-03C
Date Constructed: May 1997
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 141.76
Screened Interval (feet below ground surface): 99-109

| Date | Carb Tet | Chloro | |
|---|---|---|---|
| Aug-97 | 130 D | 9 | |
| Nov-97 | 170 D | 10 | |
| Mar-98 | 260 D | 10 | |

Well Number: 17-MP-03D
Date Constructed: May 1997
Aquifer Zone: Mid-deep
Measuring Point Elevation (feet above mean sea level): 141.76
Screened Interval (feet below ground surface): 148-158

| Date | Carb Tet | Chloro | |
|---|---|---|---|
| Aug-97 | 180 D | 5 | |
| Nov-97 | 130 D | 6 | |
| Mar-98 | 360 D | 5 | |

Well Number: CL1-MW-01
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 145.11
Screened Interval (feet below ground surface): 53-78

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 480 Y | 4900 | 100 U | 100 U | 200 U |
| May-96 | 4600 Z | 350 Y | 3000 | 250 U | 250 U | 500 U |
| Aug-96 | 6800 Z | 100 U | 12000 J-K | 250 U | 250 U | 500 U |
| Nov-96 | 3200 Z | 250 Y | 2000 D | 12 U | 12 U | 38 U |
| Feb-97 | 1300 Z | 540 Y | 1400 D | 5 U | 5 U | 10 U |
| May-97 | 210 | 150 J-S | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 3700 Z | 260 Y | 2600 D | 0.5 U | 0.5 UJ-K | 2 J-K |
| Nov-97 | 680000 Z | 240 Y | 580 D | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 470 Y | 210 Y | 250 D | 0.5 U | 0.5 U | 1 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: CL1-MW-02
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 144.64
Screened Interval (feet below ground surface): 53-78

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 70000 Y | 1100 | 50 U | 71 | 160 |
| May-96 | 7000 Z | 100000 Y | 530 | 25 U | 45 | 50 U |
| Aug-96 | 21000 Z | 91000 Y | 420 J-SK | 25 U | 71 J-S | 96 J-S |
| Nov-96 | 16000 J-S | 160000 Y | 450 D | 14 | 67 D | 8 |
| Feb-97 | 10000 Z | 230000 | 310 D | 5 U | 78 | 5 U |
| May-97 | 9500 Y | 390000JS | 180 D | 6 J-S | 30 J-S | 10 J-S |
| Aug-97 | 4800 Z | 940000 DY | 490 J-SK | 9 J-S | 120 J-SK | 45 J-SK |
| Nov-97 | 50 U | 340000 DZ | 190 | 36 | 110 | 98 |
| Mar-98 | 16000 DY | 310000 DY | 110 | 96 | 0.5 U | 56 |

Well Number: CL1-MW-03
Date Constructed: November 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 144.23
Screened Interval (feet below ground surface): 101-111

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 11000 Y | 14000 | 250 U | 250 U | 500 U |
| May-96 | 9400 Z | 6500 Y | 5100 | 50 U | 50 U | 100 U |
| Aug-96 | 15000 Z | 7100 Y | 12000 J-K | 250 U | 250 U | 500 U |
| Nov-96 | 14000 Z | 12000 Y | 9000 | 500 U | 500 U | 500 U |
| Feb-97 | 7300 Z | 31000 | 2900 D | 25 U | 25 U | 25 U |
| May-97 | 8800 | 51000 DY | 2900 D | 1 J | 2 | 2 |
| Aug-97 | 11000 DZ | 8500 DY | 5000 D | 0.5 U | 13 J-S | 17 J-S |
| Nov-97 | 3800 Z | 67000 DY | 2600 D | 49 | 28 | 59 |
| Mar-98 | 1900 DY | 17000 DY | 110 | 11 | 7 | 6 |

Well Number: CL1-MW-04
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 143.95
Screened Interval (feet below ground surface): 50-75

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 150 Z | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 150 Z | 100 U | 12 D | 1 U | 1 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.8 | 0.5 U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 150 Z | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 1 | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: CL1-MW-05
Date Constructed: April 1996
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 142.98
Screened Interval (feet below ground surface): 50-75

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylbenz. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| May-96 | 0.5 U | 1 U | 0.5 U | 50 UJ-K | 100 U | 0.6 | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 2 U | 2 U | 2 U | 200 Y | 100 U | 2 J | 2 U | 2 U | 2 U |
| Feb-97 | 0.5 U | 1U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 0.5 U | 2U | 0.5 U | 50 U | 100 U | 0.4 J | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: CL1-MW-06
Date Constructed: April 1996
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 146.57
Screened Interval (feet below ground surface): 54-79

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylbenz. | Xylenes |
|---|---|---|---|---|---|---|
| May-96 | 50 U | 360 Y | 0.5 U | 0.5U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 0.5U | 0.5 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.5 U | 0.5U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 0.5U | 0.5 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 | 0.5 | 0.5 U | 1 |
| Aug-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: CL1-MW-07
Date Constructed: April 1996
Aquifer Zone: Mid-deep
Measuring Point Elevation (feet above mean sea level): 144.33
Screened Interval (feet below ground surface): 165-175

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Apr-96 | NA | 260 Y | 0.5 | 1 U | 1 U | 1 U |
| May-96 | 50 UJ-K | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 UJ-K | 0.5 U | 0.5 U | 1 UJ-K |
| Nov-96 | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 50 U | 100 U | 0.5 UJ-K | 0.5 U | 0.5 UJ-K | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: CL1-MW-08
Date Constructed: April 1996
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 145.01
Screened Interval (feet below ground surface): 109-119

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| May-96 | 1800 Z | 100 U | 380 | 10 U | 10 U | 20 U |
| Aug-96 | 2000 Z | 100 U | 460 J-K | 50 U | 50 U | 100 UJ-K |
| Nov-96 | 1200 Z | 100 U | 600 | 25 U | 25 U | 25 U |
| Feb-97 | 2500 Y | 100 U | 1400 | 10 U | 10 U | 20 U |
| May-97 | 3700 | 100 Z | 1500 D | 1.3 | 0.5 U | 1.3 |
| Aug-97 | 1400 Z | 100 U | 1900 D | 1 J-S | 0.5 UJ-K | 2 J-SK |
| Nov-97 | 4600 Z | 100 U | 2600 D | 2 | 0.5 U | 2 |
| Mar-98 | 2100 DY | 100 U | 1500 D | 0.5 U | 0.5 U | 1 U |

Well Number: CL2-MW-01
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.01
Screened Interval (feet below ground surface): 28-53

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-96 | 50 U | 100 U | 16 | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.6 | 0.5 U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 110 Y | 100 U | 9 | 0.5 U | 0.5 U | 1 U |

Well Number: CL2-MW-02
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.62
Screened Interval (feet below ground surface): 30-55

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 5100 Y | 86 | 2 U | 4 | 5 U |
| May-96 | 1300 J-K | 4500 Y | 17 | 1 | 7 | 1 UJ-K |
| Aug-96 | 820 Z | 1400 Y | 7 J-K | 0.5 U | 3 | 1 U |
| Nov-96 | 490 Y | 940 Y | 5.4 JS | 0.5 U | 7.4 U | 0.9 U |
| Feb-97 | 760 Z | 1500 Y | 22 | 0.5 U | 6 | 1 |
| May-97 | 890 | 1500 Y | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 610 Z | NA | 60 | 0.5 U | 11 J-K | 4 J-K |
| Nov-97 | 2600 Y | 1500 Y | 140 | 0.5 U | 29 | 7 |
| Mar-98 | 1700 DY | 390 Y | 170 | 0.5 U | 33 | 18 |

Well Number: CL2-MW-03
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 121.57
Screened Interval (feet below ground surface): 30-55

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Dec-95 | NA | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-96 | 50 U | 100 U | 2 | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 UJ-K | 0.5 U | 0.5 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: CL2-MW-04
Date Constructed: April 1996
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 123.38
Screened Interval (feet below ground surface): 30-55

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| May-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | 100 U | 0.6 | 0.5 U | 0.5 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: CL2-MW-05
Date Constructed: April 1996
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 122.30
Screened Interval (feet below ground surface): 80-90

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Apr-95 | NA | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | 100 U | 3 | 2 | 0.5 U | 1 |
| May-97 | 310 | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 |
| Aug-97 | 140 Z | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 UJ-K |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: CL2-MP-01A
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.74
Screened Interval (feet below ground surface): 28-38

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Aug-97 | 3500 Z | 6500 DZ | 37 | 0.5 U | 130 JK | 29 JK |
| Nov-97 | 7000 Y | 22000 DZ | 48 | 0.5 U | 130 | 38 |
| Mar-98 | 10000 DY | 3700 DY | 78 | 27 | 190 | 124 |

Well Number: CL2-MP-01B
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.74
Screened Interval (feet below ground surface): 41-51

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Aug-97 | 50 U | 150 Z | 0.6 | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 190 Y | 0.5 U | 0.5 U | 1 | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: CL2-MP-02A
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.55
Screened Interval (feet below ground surface): 28-38

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Aug-97 | 6200 Z | 18000 DY | 1400 D | 0.5 U | 67 JSK | 70 JSK |
| Nov-97 | 6300 Y | 8300 DY | 1300 D | 4 | 150 | 57 |
| Mar-98 | 4500 DY | 7800 DY | 1000 D | 0.5 | 160 | 67 |

Well Number: CL2-MP-02B
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.56
Screened Interval (feet below ground surface): 40.5-50.5

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Aug-97 | 1400 Z | 1600 Y | 44 | 0.5 U | 40 | 5 |
| Nov-97 | 500 Y | 1100 Y | 20 | 0.5 U | 27 | 2 |
| Mar-98 | 1900 DY | 1800 DY | 50 | 0.5 U | 87 | 1 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: CL2-MP-03A
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.60
Screened Interval (feet below ground surface): 28-38

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Aug-97 | 130 Z | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 570 Z | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: CL2-MP-03B
Date Constructed: May 1997
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.50
Screened Interval (feet below ground surface): 41-51

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Aug-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

Well Number: MW6
Date Constructed: October 1990
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 122.06
Screened Interval (feet below ground surface): 37-52

| Date | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|
| Oct-90 | NA | 25 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Jun-94 | 50 U | 200 J-N | 0.07 J | 0.5 U | 0.5 U | 0.5 U |
| Sep-94 | 50 U | 100 U | 1 U | 1 U | 1 U | 1 U |
| Dec-94 | 50 U | 340 Y | 1 U | 1 U | 1 U | 1 U |
| Mar-95 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-96 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1.5 U |
| Feb-97 | 50 U | NA | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Aug-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Nov-97 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| Mar-98 | 50 U | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 109-MW-01
Date Constructed: November 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 134.22
Screened Interval (feet below ground surface): 44-69

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | NA | NA | NA | NA | 100 U | 0.5 U | 0.5 U | 0.5 U | 1 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 1 | 1 U | 1 U | 1 U |
| Nov-96 | 2 U | 2 U | 2 U | 50 U | 100 U | 2 U | 2 U | 0.3 J | 2 |
| Feb-97 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 0.5 U | 2 U | 2 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 117-MW-01
Date Constructed: October 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 142.78
Screened Interval (feet below ground surface): 50-75

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 0.9 | 1 U | 0.5 U | 50 U | NA | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 UJ-K | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 1 | 1 U | 0.5 UJ-K | 50 U | 100 U | 2 | 1 | 1 U | 2 |
| Nov-96 | 0.9 J | 0.2 J | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 0.7 | 1 U | 0.5 U | 50 U | 100 U | 2 | 1 | 1 U | 2 |
| May-97 | 0.8 | 2 U | 2 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 1 | 2 U | 0.5 U | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 1 | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Well Number: 117-MW-02
Date Constructed: October 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 141.80
Screened Interval (feet below ground surface): 49-74

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 0.5U | 5 | 130 D | 3200 Y | NA | 560 D | 96 D | 1 | 96 D |
| May-96 | 0.5U | 2 U-B | 340 D | 3100 Y | 340 Y | 1700 D | 390 D | 18 | 340 D |
| Aug-96 | 1 | 1 U | 0.5 UJ-K | 5800 Y | 350 Y | 2700 D | 1100 D | 35 | 1000 |
| Nov-96 | 40U | 40 U | 640 | 8300 Z | 680 Z | 3100 D | 540 | 56 | 500 |
| Feb-97 | 12U | 25 U | 250 | 4200 Y | 1300 Y | 2500 D | 780 D | 30 | 170 |
| May-97 | 0.5 U | 2 U | 230 D | 6100 | 420 Z | 1100 D | 400 D | 73 JD | 370 D |
| Aug-97 | 0.5 U | 2 U | 390 D | 3800 Z | NA | 420 D | 50 D | 57 D | 157 |
| Nov-97 | 0.5 U | 2 U | 160 D | 260 Z | NA | 0.5 U | 4 | 4 | 13 |
| Mar-98 | 0.5 U | 2 U | 120 D | 360 Y | NA | 10 | 3 | 3 | 18 |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 117-MW-03
Date Constructed: November 1995
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 141.65
Screened Interval (feet below ground surface): 98-108

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 0.5 U | 3 | 15 | 810 | NA | 190 D | 19 | 2 | 91 D |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 620 Y | 1 | 1 U | 1 U | 0.8 J |
| Aug-96 | 0.5 U | 3 | 0.5 U | 190 Z | 1100 Y | 76 D | 3 | 1 U | 2 |
| Nov-96 | 2 U | 3 | 2 U | 200 Y | 920 Y | 52 D | 1 J | 2 U | 1 J |
| Feb-97 | 0.5 U | 1 | 2 | 260 Y | 2400 | 170 D | 0.7 J | 1 U | 1 U |
| May-97 | 0.5 | 4 JD | 7 D | 50 U | 730 Y | 140 D | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 4 | 4 | 410 Z | NA | 65 D | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 4 | 0.5 U | 350 Z | NA | 150 D | 0.4 J | 0.5 J | 1 J |
| Mar-98 | 0.6 | 6 | 8 | 290 Z | NA | 150 D | 2 U | 2 U | 2 U |

Well Number: 117-MW-04
Date Constructed: December 1995
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 139.47
Screened Interval (feet below ground surface): 49-74

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Dec-95 | 0.5 U | 1 U | 0.5 U | 50 U | NA | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 3 | 0.9 J | 1 U | 1 |
| Nov-96 | 2 U | 2 U | 2 U | 50 U | 100 U | 0.5 J | 2 U | 2 U | 0.9 J |
| Feb-97 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 1 | 1 U | 1 U | 1 UJ-K |
| May-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 5 | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 2 U | 0.5 U | 50 U | NA | 6 | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | NA | 4 | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | NA | 10 | 2 U | 2 U | 2 U |

Well Number: 117-MW-05
Date Constructed: April 1996
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 138.44
Screened Interval (feet below ground surface): 50-75

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| May-96 | 0.5 U | 1 U | 0.6 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 3 | 1 U | 1 U | 0.8 J |
| Nov-96 | 0.3 J | 2 U | 2 U | 50 U | 100 U | 0.6 J | 2 U | 0.3 J | 2 |
| Feb-97 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 2 U | 0.5 U | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | NA | 0.4 J | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: 117-MW-06
Date Constructed: April 1996
Aquifer Zone: Mid-deep
Measuring Point Elevation (feet above mean sea level): 142.10
Screened Interval (feet below ground surface): 175-185

| Date | Carb Tet | Chloro | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Apr-96 | NA | NA | NA | 50 U | NA | 0.6 | 0.5 U | 0.5 U | 1 U |
| May-96 | 6 | 1 U | 0.5 U | 50 UJ-K | 100 U | 0.5 U | 1 | 1 U | 1 |
| Aug-96 | 6 | 1 U | 0.5 U | 63 Y | 100 U | 6 | 23 | 2 | 7 |
| Nov-96 | 2 J | 10 U | 10 U | 370 Z | 100 U | 26 B | 85 | 7 J | 30 |
| Feb-97 | 6 | 1 U | 2 | 390 Y | 100 U | 78 D | 170 D | 7 | 37 |
| May-97 | 5 D | 2 U | 1 | 720 Z | 100 U | 37 | 190 D | 10 | 81 D |
| Aug-97 | 5 | 0.2 J | 0.5 U | 590 Y | NA | 19 | 68 D | 4 | 57 |
| Nov-97 | 6 | 0.3 J | 0.5 U | 50 U | NA | 3 | 11 | 2 U | 8 |
| Mar-98 | 6 | 2 U | 0.5 U | 130 Z | NA | 5 | 13 | 2 U | 13 |

Well Number: 117-MW-07
Date Constructed: April 1996
Aquifer Zone: Mid-shallow
Measuring Point Elevation (feet above mean sea level): 138.14
Screened Interval (feet below ground surface): 108-118

| Date | Carb Tet | Chloro | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| May-96 | 20 | 5 U-B | 0.5 U | 50 UJ-K | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 16 | 9 | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 13 | 9 | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 13 | 8 | 0.5 U | 50 U | 100 U | 5 | 4 | 1 U | 2 |
| May-97 | 14 | 9 | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 17 | 7 | 0.5 U | 110 Z | NA | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 17 | 6 | 0.5 U | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 21 | 6 | 0.5 U | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |

# NALF Crows Landing
## Groundwater Analytical Results Summary

Well Number: MW117-4
Date Constructed: May 1992
Aquifer Zone: Shallow
Measuring Point Elevation (feet above mean sea level): 137.57
Screened Interval (feet below ground surface): 36-56

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| May-92 | 0.3 U | 0.2 U | 1.5 | 50 U | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Jun-94 | 2 U | 2 U | 2 | 50 U | 45 J-N | 0.3 U-B | 0.2 J | 0.1 J | 0.1 J |
| Sep-94 | 0.5 U | 1 U | 2 | 50 U | 100 U | 1 U | 1 U | 1 U | 1 U |
| Dec-94 | 0.5 U | 1 U | 2 | 50 U | 720 Y | 1 U | 1 U | 1 U | 1 U |
| Mar-95 | 0.5 U | 1 U | 0.9 | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-96 | 0.5 U | 1 U | 1 | 50 U | 120 Y | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 3 | 2 | 1 U | 2 |
| Nov-96 | 2 U | 2 U | 2 | 50 U | 100 U | 2 U | 2 U | 0.2 J | 2 J |
| Feb-97 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| May-97 | 0.5 U | 2 U | 5 | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | 0.5 U | 2 U | 7 | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |
| Nov-97 | 0.5 U | 2 U | 5 | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 7 | 50 U | NA | 0.5 U | 2 U | 2 U | 2 U |

Well Number: Base Water Supply Well (NASA Well)
Date Constructed: February 1995
Aquifer Zone: Deep
Measuring Point Elevation (feet above mean sea level): Not measured
Screened Interval (feet below ground surface): 210-235

| Date | Carb. Tet. | Chloro. | 1,2-DCA | TPH-P | TPH-E | Benzene | Toluene | Ethylben. | Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| Mar-95 | 0.5 U | 0.5 U | 0.5 U | NA | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| May-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Aug-96 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| Nov-96 | 2 U | 2 U | 2 U | 50 U | 100 U | 2 U | 2 U | 2 U | 2 U |
| Feb-97 | 0.5 U | 1 U | 0.5 U | 50 U | 100 U | 0.5 U | 1 U | 1 U | 1 U |
| May-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Aug-97 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nov-97 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |
| Mar-98 | 0.5 U | 2 U | 0.5 U | 50 U | 100 U | 0.5 U | 2 U | 2 U | 2 U |

Notes:

All concentrations in micrograms per liter (ug/L)
NA - Not analyzed
Carb. Tet. - Carbon tetrachloride
Chloro. - Chloroform
1,2-DCA - 1,2-dichloroethane
TPH-P - Total purgeable petroleum hydrocarbons
TPH-E - Total extractable petroleum hydrocarbons
Ethylben. - Ethylbenzene