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QUARTERLY BASEWIDE GROUNDWATER REPORT VERIFICATION SAMPLING AND ANALYSIS – FALL 2001 FIFTH QUARTER

NASA CROWS LANDING FLIGHT FACILITY
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Acronyms and Abbreviations

APCL	Applied Physics and Chemistry Laboratory
APPL	Agriculture and Priority Pollutant Laboratory
CAM 17	California Assessment Manual 17
EDB	ethylene dibromide
EPA	United States Environmental Protection Agency
Facility	NASA Crows Landing Flight Facility
ft bgs	feet below ground surface
IRP	Installation Restoration Program
IT	IT Corporation
J	estimated concentration
LCS	laboratory control spikes
MS	matrix spike
MSD	matrix spike duplicates
MTBE	methyl-tert butyl ether
NASA	National Aeronautics Space Administration
NFESC	Naval Facilities Engineering Services Center
QC	quality control
RPD	relative percent difference
RRF	relative response factor
SAP	Sampling and Analysis Plan
SDG	sample delivery group
TPH	total petroleum hydrocarbons
TtEMI	Tetra Tech EM Inc.
U	not detected
UST	underground storage tank
VOC	volatile organic compound

1.0 Introduction

IT Corporation (IT) has prepared this report 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 *Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification Activities at Various Sites, Revision 2* (IT, 2001a). This report describes quarterly basewide groundwater monitoring activities conducted during November 2001.

The basewide groundwater monitoring program at the Facility consists of collecting groundwater samples from the selected wells within the Facility property once every three months and analyzing the samples at an off-site laboratory. 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 nature and extent of metals, petroleum hydrocarbons, and volatile organic compounds (VOCs) at various sites within the facility and to evaluate general groundwater chemistry.

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, including descriptions of water level monitoring and groundwater sampling, and supplemental information.
- Section 3.0–Current Quarterly 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 and Recommendations: Presents 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 were installed at selected locations where groundwater was 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 were also installed at locations where 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, et al., 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 to 230 feet below ground surface (ft bgs) and approximately 40 to 110 feet thick at the Facility location (Hotchkiss, 1972; Page, 1986).

The water table surface generally conforms to the topography of the northwestern San Joaquin Valley and slopes from the Coast Ranges toward the San Joaquin River at an approximate gradient of 5 to 25 feet per mile (Phillips, et al., 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. 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

A recent review of historical reports indicates that some of the deep zone monitoring wells may be screened in the Corcoran Clay (Hotchkiss, 1972; Page, 1986).

1.3 Overview of Quarterly Monitoring Program

From 1994 through 1998, groundwater samples were collected periodically and 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 for laboratory analysis every three months and gathering groundwater level data. 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 number and frequency of sampling activities, as well as the specific laboratory analysis conducted, will be evaluated and modified periodically to obtain meaningful information to support effective evaluation of plume migration. Changes in the monitoring program will be documented in the quarterly reports prior to implementation.

This report contains the results of the fifth quarterly sampling event, which was conducted in November 2001.

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 and concurrent activities at the Facility.

2.1 Summary of Previous Quarterly Monitoring Activities

Quarterly groundwater monitoring was previously performed from 1994 to 1998 (TtEMI, 1998). The monitoring program included IRP Site 11, IRP 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 during this period (TtEMI, 1998).

The more recent quarterly groundwater monitoring program began in the fall of 2000 to evaluate and monitor current conditions. The results from these quarterly sampling events (fall 2000, winter 2001, spring 2001, and summer 2001) provide adequate information for evaluating the nature and extent of contamination at the project sites. Discrete groundwater sampling and analysis and additional well installation were conducted during the year to supplement the evaluation of the nature and extent of impacted groundwater associated with the Administration Area Plume. Selected new wells were incorporated into the quarterly monitoring program where appropriate. A summary of the data from all previous investigations as well as an analysis of trends in historical and current data will be included in the annual report, which is in preparation.

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

On November 8, 2001, water levels in 26 wells were measured within a period of a few hours and were recorded. The field notes are included in Appendix A and the results are summarized in Table 1. The groundwater level at two wells (CL2-MP-02A and CL2-MP-05A) was below the total depth of the wells and could not be measured.

2.2.2 Basewide Water Level Monitoring

In December 2000, four electronic data loggers were installed to record water levels in shallow wells throughout the Facility: CL1-MW-10S, 117-MW-05, CL2-MP-03B, and 11-MW-03. Basewide water level monitoring was expanded in February 2001 to include four additional

wells: 109-MW-01, 11-MW-05, BG-MW-01, and CL1-MW-09(MS). In September 2001, the datalogger in well CL1-MW-10(S) was relocated to well BG-MW-03 to allow for a better evaluation of regional water levels. Water levels are acquired hourly and the data are downloaded monthly. Data from September 5, 2001 through October 5, 2001 could not be retrieved from the datalogger installed in well 109-MW-01 due to equipment failure. A graphic presentation of the data collected over the quarter from all wells monitored is presented in Appendix B.

2.2.3 Groundwater Sampling

Groundwater samples were collected from the monitoring wells listed on Table 2 and shown on Figure 2 between November 12 and November 14, 2001. Groundwater samples could not be collected from monitoring wells CL2-MP-02A and CL2-MP-05A, which were dry during this sampling event.

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 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. Dedicated, clean tubing was used for purging and sample collection from each well. Samples for metals analysis (U.S. Environmental Protection Agency [EPA] Methods 6010B/7000) were filtered at the time of sample collection using in-line 0.45-micron disposable filters.

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

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 by EPA Method 8015B
- TPH as diesel and motor oil by EPA Method 8015B (Samples were prepared using Silica Gel Cleanup by EPA Method 3630C.)
- California Assessment Manual (CAM 17) metals by EPA Methods 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 by EPA Method 160.1

Quarterly groundwater samples were forwarded 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.

Samples for hexavalent chromium analysis were forwarded to Agriculture and Priority Pollutant Laboratory (APPL) in Fresno, California. This local laboratory was selected for addressing this parameter in order to comply with the maximum 24-hour sample holding time. APPL is a California-certified laboratory that has also received validation by the United States Army Corps of Engineers, but has not been subject to the NFESC assessment process.

2.2.4 Supplemental Information

Additional field activities and observations are discussed below.

Additional Field Activities

During the fall 2001 quarter, groundwater samples were collected from additional on-site wells, which are discussed below. These groundwater samples were analyzed for the same parameters as the regular quarterly monitoring samples. Analytical results are included and summarized in Appendix C.

The NASA Supply Well No. 2 was sampled on November 13, 2001. This is an active on-site water supply well that provides water for fire suppression.

Field Observations

Similar to what occurred during previous sampling activities, one well (CL1-MW-06) went dry during purging. The micro-purge technique could not be effectively implemented at this well with the equipment available. The CL1-MW-06 was allowed to recharge and samples were collected.

The pH levels in groundwater from deep well 17-MW-15 were anomalously high initially (11.17 to 11.22) and white particulate material resembling bentonite or grout was observed in purge

water. These high pH levels and observations of particulate matter were consistent with the previous sampling events. The pH levels in all others wells range from approximately 6.8 to 8.2.

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 transferred to a storage tank located at the UST Cluster 1 site. The wastewater will be properly disposed of when the tank is filled. Documentation of disposal of the wastewater will be included in the final report for groundwater extraction activities at UST Cluster 1.

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 1. These data represent water levels recorded from wells throughout the facility within a period of a few hours on November 8, 2001.

3.1.1 Groundwater Flow Direction and Gradient

Groundwater elevations in shallow wells, calculated from the November 8, 2001 survey data were used to create a water table elevation map (Figure 3). The locations of 2 active water supply wells [6/8-20(NALF) and 6/8-16M1] are also included on Figure 3.

The direction and spacing of groundwater contour lines on Figure 3 suggest that the water table surface generally conforms to surface topography (Figure 1) and has a gradient that is less steep (e.g., more gradual) than surface topography. Shallow groundwater flows to the northeast, toward the San Joaquin River.

The pattern of groundwater contour lines shown on Figure 3 is similar to the pattern shown in the Fall 2000, Winter 2001, Spring 2001, and Summer 2001 reports with the exception of local fluctuations due to groundwater extraction activities at the nearby water supply well (6/8-16M1). These reports corroborate the regional pattern for the area between Patterson and Crows Landing previously documented by Phillips, et al., (1991) for spring 1987. Drawdown due to pumping of water supply wells locally effects the shape of the water table, but does not appear to cause groundwater gradient reversals as has been suggested in previous reports (TtEMI, 1998).

3.1.2 Basewide Water Level Monitoring Results

Groundwater level monitoring results from data loggers were graphed and are presented in Appendix B.

3.2 Groundwater Analytical Results

Groundwater analytical results are presented in Appendix C and summarized in Table 3. The following sections present a discussion of the analytical data.

3.2.1 Petroleum Hydrocarbons

Groundwater samples were analyzed for petroleum hydrocarbons by EPA Method 8015B. The results are summarized in Table 3. Concentrations of selected petroleum hydrocarbons and related VOCs are shown on Figure 4.

Although the diesel and motor oil sample extracts were prepared using silica gel cleanup procedures (EPA Method 3630C), several of the samples collected for analysis for extractable petroleum hydrocarbons still 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.

The highest concentration of gasoline range petroleum hydrocarbons were detected in the mid-deep well CL1-MW-12(MD). This well is located in the UST Cluster 1 source area. The data does not indicate any significant recent changes in the nature and extent of the impacted groundwater at the facility. Trends in the data will be evaluated and included in the annual report.

3.2.2 Volatile Organic Compounds

Groundwater samples were analyzed for VOCs by EPA Method 8260B. The results are summarized on Table 3. Concentration of selected petroleum hydrocarbon related VOCs are included in Figure 4. Concentrations of selected chlorinated and nonchlorinated solvents are shown on Figure 5.

The results for detected VOCs are relatively consistent with the results from the summer 2001 sampling event. The data verifies previous results that indicate detectable concentrations of selected compounds were found in wells previously assumed to be outside the plume boundary based on historical plume maps (TtEMI, 1998). Additional discrete groundwater sampling and monitoring well installation is being conducted to evaluate current site conditions. The data does not indicate any significant recent changes in the nature and extent of the impacted groundwater at the facility. Trends in the data will be evaluated and included in the annual report.

3.2.3 Metals

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

are no trends in the distribution of metals in groundwater that would indicate impact from historical activities at the facility.

3.2.4 General Groundwater Chemistry

Groundwater samples 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 a separate document.

3.3 Data Quality Assessment

Twenty-five (25) primary and three field duplicate groundwater samples were collected November 12 through November 14, 2001, and were sent to APCL and APPL for analysis.

3.3.1 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, 2001b).

The analytical data were reported in three sample delivery groups (SDGs) from APCL and three SDGs from APPL (shown below). All SDGs were validated at EPA Level III except SDG number 01-7025, which was validated at EPA Level IV. The findings of the data validation process are summarized in this section.

APCL SDG: 01-7025 and APPL SDG: 36904	APCL SDG: 01-7065 and APPL SDG: 36919	APCL SDG: 01-7095 and APPL SDG: 36929
11-MW-03	117-MW-08	117-MW-10S
CL2-MW-05	117-MW-09	17-MW-03
11-MW-04	CL1-MW-06	CL-99-19 (Field Duplicate of 17-MW-03)
109-MW-01	CL1-MW-04	17-MW-13
CL1-MW-05	17-MW-11	CL1-MW-09S
17-MW-06	CL-99-18 (Field Duplicate of 17-MW-25MS)	CL1-MW-12MD
17-MW-08	17-MW-25MS	Trip Blank No. 3
17-MW-09	17-MW-15	
17-MW-24S	17-MW-18	
17-MW-24MS	NASA-SW-03	
17-MW-25S	Trip Blank No. 2	
CL-99-17 (Field Duplicate of 17-MW-08)		
Trip Blank No. 1		

3.3.2 Level III Data Validation

The following laboratory quality control (QC) parameters were evaluated during Level III and Level IV 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 (precision and accuracy)
- Interference check sample and serial dilutions (EPA Methods 6010B/7000 only)
- Matrix spikes (MSs)/matrix spike duplicates (MSDs) (precision and accuracy)

Recalculation of sample results from raw laboratory data (Level IV only)

3.3.3 Sample Receipt, Temperature, and Holding Times

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

3.3.4 Method Blanks and Trip 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. Trip blanks are 40 milliliter volatile organic analysis vials of organic-free water, which are kept with the field sample containers from the time they leave the laboratory until the time they are returned to the laboratory. The purpose of trip blanks is to determine whether samples have been contaminated with VOCs during transportation or sample collection. The method blanks and trip blanks did not contain any analytes of interest at or above the method reporting limits for all analyses, with the following exceptions:

TPH as gasoline (EPA Method 8015B)

Low levels of gasoline range organic compounds were detected in the method blanks and trip blanks of SDG 01-7095, 01-7025, and 01-7065 and some of the associated project samples. The

results were reported as "not detected" (U) for all samples in the SDGs with reported concentration of gasoline range organic compounds less than 5 time the associated blank.

Metals (EPA Method 6010B)

Arsenic, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, zinc, and vanadium were detected at low concentrations in various method blanks and initial and continuing calibration blanks for SDG 01-7095, 01-7025, and 01-7065. Some of these elements were detected in project samples at concentrations less than five times the associated blank concentrations. In these instances, the sample results were reported as not detected "U" at the reporting limit.

3.3.5 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.

3.3.6 Calibrations

The requirements for initial and continuing calibrations were met for all analyses, with the following exceptions for EPA Method 8260B:

- The relative response factor (RRF) for acetone and tert-butyl alcohol did not meet the minimum (0.05) Contract Laboratory Program criteria in the initial and continuing calibration standards for SDG 01-7095, 01-7025, and 01-7065. This is not a requirement for EPA Method 8260B. However, all samples in these SDGs were qualified as estimated concentrations (J/UJ) for these two analytes. Data usability was not affected.

- The percent relative standard deviation for dichlorodifluoromethane was 16.6 percent, which did not meet the method-specified criteria of less than 15 percent. All three SDGs, 01-7095, 01-7025, and 01-7065, were affected. Dichlorodifluoromethane was not detected in any project samples. All results were qualified as estimated concentrations (UJ) for this analyte. Data usability was not affected.

- The percent difference for acetone, carbon disulfide, bromomethane, dichlorodifluoromethane, 1,1-dichloropropane, tert-, sec- and n-butylbenzene, trichlorofluoromethane, tetrachloroethene, 1,4-dichlorobenzene, 1,2,4 trichlorobenzene, isopropyltoluene, hexachlorobutadiene and tert-butyl alcohol did not meet the method specified criteria in one or more of the continuing calibration standards for SDG Nos. 01-7095, 01-7025, and 01-7065. Samples associated with

these continuing calibration standards were qualified as estimated concentrations (J/UJ) for some or all of these analytes. Data usability was not affected.

3.3.7 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.

3.3.8 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.

3.3.9 Interference Check Sample and Serial Dilutions

The interference check sample is used to measure the interelement interference for inductively coupled plasma analysis (EPA Method 6010B). It measures the positive or negative bias of the instrument based on high concentrations of known interfering elements. All interference check samples met the method required acceptance criteria.

The serial dilution is used to measure matrix interference, which causes instrument signal suppression. All serial dilutions met the method specified acceptance criteria.

3.3.10 Matrix Spikes and Matrix Spike Duplicates

MS and MSD 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. One site-specific groundwater sample, from well 17-MW-25 (S), was submitted to the laboratory for MS/MSD evaluation. All percent recoveries and RPDs were within the specified control limits for all analyses.

3.3.11 Analytical Anomalies

Analytical anomalies were noted by APCL during the TPH diesel and motor oil analyses. Miscellaneous peaks in the diesel carbon range of C_{12} to C_{16} were present in most of the sample

chromatograms at varying concentrations. Characteristic diesel hydrocarbon patterns were not observed in the samples.

As recommended in a previous Quarterly Basewide Groundwater Monitoring Report (IT, 2001c), silica gel cleanup procedures (EPA Method 3630C) were performed on all TPH diesel analyses. This cleanup procedure was used to remove interfering nonpetroleum-based compounds. The results of analysis indicated that the silica gel did reduce the amount of the interfering compounds. However, it was not successful in removing all of the miscellaneous peaks. This is in part due to the chemical properties of these compounds.

3.3.12 Field Duplicates

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

3.4 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 C.

4.0 Monitoring Plan and Recommendations

The results from the fall 2001 sampling event provide additional information on the nature and extent of contamination at each of the investigation sites. These results confirm impact to groundwater from releases of petroleum hydrocarbons, chlorinated solvents, and nonchlorinated solvents, and indicate that the extent of contamination may be greater than previously assumed based on historical data available. Additional wells have been installed and are planned to better define the current extent of the Administration Area Plume.

The monitoring wells currently included in the quarterly sampling program provide sufficient information to evaluate the changes in concentrations of compounds of concern at the individual site source areas as well as to monitor the extent of plume migration. Additional wells that are installed may be incorporated to enhance the monitoring program. Continued periodic (quarterly) monitoring of petroleum hydrocarbons and VOCs is required to monitor changes in the plumes.

There are no trends in the distribution of metals, including hexavalent chromium, in groundwater at the facility that would indicate impact from historical activities. Continued sampling and analysis for metals are not required to monitor risk associated with impacts from site activities. Future quarterly groundwater sampling events will not include analysis for metals (CAM-17 or hexavalent chromium).

Although the monitoring wells currently included in the quarterly monitoring program provide sufficient data to monitor the current condition and migration of the plumes at the facility, additional data from other existing wells on the site will be used to better evaluate natural attenuation. Sampling from a majority of the wells at the facility and analysis for petroleum hydrocarbons, VOCs, and general chemistry parameters (anions, alkalinity, and total dissolved solids) completed annually will provide a database to be used for the evaluation of plume attenuation. The data will be used to statistically evaluate changes in concentration over time at specific locations within the plume, changes in distance of plume migration from the source area over time, and changes in groundwater geochemistry over time at specific locations within the plume.

During the winter quarterly monitoring events (2002 and beyond) groundwater will be sampled from the wells included on Table 4 and the samples will be analyzed for gasoline, jet fuel, diesel, motor oil, VOCs, and general chemistry parameters. In addition, because the analysis of general

chemistry parameters (nitrates, sulfates, orthophosphates, etc.) is completed as part of the natural attenuation evaluation it is only required during the winter sampling events. During subsequent summer, spring, and fall sampling events, the wells sampled during the fall 2001 event and potentially newly installed wells will be sampled. The samples will be analyzed for gasoline, jet fuel, diesel, motor oil, and VOCs. Some minor changes in the specific wells to be sampled and specific analysis may occur based the installation of new wells. Any additional changes will be discussed in subsequent quarterly monitoring reports. The results of the evaluation of natural attenuation of the plumes will be included in subsequent annual reports.

5.0 References

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FIGURES

FIGURE 1 – FACILITY LOCATION MAP

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FIGURE 2 – FALL 2001 MONITORING WELL LOCATION MAP

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FIGURE 3 – WATER TABLE ELEVATION MAP,
NOVEMBER 8, 2001

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FIGURE 4 – CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER, FALL–2001

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FIGURE 5 – CONCENTRATIONS OF ORGANIC SOLVENTS IN GROUNDWATER, FALL–2001

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FIGURE 6 – CONCENTRATIONS OF CHROMIUM IN GROUNDWATER, FALL–2001

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TABLES

TABLE 1
Well Construction and Water Level Data

	Well Construction Data						Water Level Data				
Well Designation	Approximate Depth of Screened Interval (ft. bgs[1])		Top of Casing Elevation (ft. amsl[2])	Approximate Elevation of Screened Interval (ft. amsl[2])			Date	Depth to Water (ft. btoc[3])	Water Level Elevation (ft. amsl[2])	Depth of Screen Bottom Below Water Level (feet)	Depth of Screen Midpoint Below Water Table (feet)
	top	bottom		top	midpoint	bottom					
109-MW-01	43	68	134.22	91.2	78.7	66.2	11/8/00	48.25	85.97	19.8	7.3
							1/29/01	47.64	86.58	20.4	7.9
							5/3/01	47.75	86.47	20.3	7.8
							8/9/01	49.81	84.41	18.2	5.7
							11/8/01	50.14	84.08	17.9	5.4
11-MW-03	50	75	141.35	91.3	78.8	66.4	5/3/01	54.08	87.27	20.9	8.5
							8/9/01	56.69	84.66	18.3	5.9
							11/8/01	56.67	84.68	18.3	5.9
11-MW-04	49	74	138.31	89.3	76.8	64.3	11/9/00	51.51	86.80	22.5	10.0
							2/1/01	50.65	87.66	23.4	10.9
							5/3/01	51.14	87.17	22.9	10.4
							8/9/01	53.61	84.70	20.4	7.9
							11/8/01	53.66	84.65	20.4	7.9
17-MW-03	97	107	142.09	45.1	40.1	35.1	5/3/01	54.43	87.66	52.6	47.6
							8/9/01	56.63	85.46	50.4	45.4
							11/8/01	56.89	85.20	50.1	45.1
17-MW-06	50	75	140.73	88.4	75.9	63.5	5/3/01	52.92	87.81	24.3	11.9
							8/9/01	54.90	85.83	22.3	9.9
							11/8/01	55.33	85.40	21.9	9.5
17-MW-08	50	75	138.45	88.4	75.9	63.5	11/7/00	51.82	86.63	23.1	10.7
							1/29/01	51.25	87.20	23.7	11.3
							5/3/01	50.91	87.54	24.0	11.6
							8/9/01	52.79	85.66	22.2	9.8
							11/8/01	53.41	85.04	21.5	9.1

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	top	bottom		top	midpoint	bottom					
17-MW-09	102	112	138.16	36.2	31.2	26.2	5/3/01	51.11	87.05	60.9	55.9
							8/9/01	53.21	84.95	58.8	53.8
							11/8/01	53.60	84.56	58.4	53.4
17-MW-11	108.5	118.5	135.90	27.4	22.4	17.4	5/3/01	49.50	86.40	69.0	64.0
							8/9/01	52.25	83.65	66.3	61.3
							11/8/01	52.14	83.76	66.4	61.4
17-MW-13	95	105	144.00	49	44	39	5/3/01	56.21	87.79	48.8	43.8
							8/9/01	59.02	84.98	46.0	41.0
							11/8/01	58.95	85.05	46.1	41.1
17-MW-15	260	270	141.86	-118.1	-123.1	-128.1	11/7/00	59.72	82.14	210.2	205.2
							1/29/01	57.98	83.88	212.0	207.0
							5/3/01	62.52	79.34	207.4	202.4
							8/9/01	75.96	65.90	194.0	189.0
							11/8/01	67.78	74.08	202.2	197.2
17-MW-18	170	180	137.57	-32.4	-37.4	-42.4	5/3/01	52.02	85.55	128.0	123.0
							8/9/01	56.41	81.16	123.6	118.6
							11/8/01	54.62	82.95	125.4	120.4
17-MW-24 (S)	43	63	133.33	89.3	79.3	69.3	5/3/01	46.95	86.38	17.1	7.1
							8/9/01	48.97	84.36	15.1	5.1
							11/8/01	49.33	84.00	14.7	4.7
17-MW-24 (MS)	89	109	132.98	43.98	33.98	23.98	11/8/01	49.15	83.83	59.9	49.9
17-MW-25 (S)	50	70	135.09	85.09	75.09	65.09	11/8/01	52.41	82.68	17.6	7.6
17-MW-25 (MS)	89	109	134.89	45.89	35.89	25.89	11/8/01	52.41	82.48	56.6	46.6
117-MW-02	50	75	142.00	92	79.5	67	5/3/01	54.54	87.46	20.5	8.0
							8/9/01	56.72	85.28	18.3	5.8
117-MW-04	49	74	139.31	90.3	77.8	65.3	5/3/01	52.43	86.88	21.6	9.1
							8/9/01	54.70	84.61	19.3	6.8

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Well Designation	Approximate Depth of Screened Interval (ft. bgs[1])		Top of Casing Elevation (ft. amsl[2])	Approximate Elevation of Screened Interval (ft. amsl[2])			Date	Depth to Water (ft. btoc[3])	Water Level Elevation (ft. amsl[2])	Depth of Screen Bottom Below Water Level (feet)	Depth of Screen Midpoint Below Water Table (feet)
	top	bottom		top	midpoint	bottom					
117-MW-07	108	118	137.96	29.9	24.9	19.9	5/3/01	51.95	86.01	66.1	61.1
							8/9/01	55.71	82.25	62.4	57.4
117-MW-08	170	179	136.46	-33.5	-38	-42.5	5/3/01	52.60	83.86	126.4	121.9
							8/9/01	59.34	77.12	119.6	115.1
							11/8/01	57.20	79.26	121.8	117.3
117-MW-09	260	270	136.97	-123	-128	-133	5/3/01	60.14	76.83	209.8	204.8
							8/9/01	76.03	60.94	193.9	188.9
							11/8/01	68.28	68.69	201.7	196.7
117-MW-10 (S)	55.0	75.0	140.25	85.3	75.3	65.3	11/8/01	55.65	84.60	19.4	9.3
CL1-MW-04	50	75	144.12	94.1	81.6	69.1	11/7/00	56.74	87.38	18.3	5.8
							1/29/01	56.43	87.69	18.6	6.1
							5/3/01	56.10	88.02	18.9	6.4
							8/9/01	58.06	86.06	17.0	4.5
							11/8/01	58.51	85.61	16.5	4.0
CL1-MW-05	50	75	142.92	92.9	80.4	67.9	5/3/01	54.38	88.54	20.6	8.1
							8/9/01	56.37	86.55	18.7	6.1
							11/8/01	56.90	86.02	18.1	5.6
CL1-MW-06	54	79	146.55	92.5	80	67.5	5/3/01	57.63	88.92	21.4	8.9
							8/9/01	59.82	86.73	19.2	6.7
							11/8/01	60.11	86.44	18.9	6.4
CL1-MW-09(S)	45	70	143.10	98.1	85.6	73.1	5/3/01	55.21	87.89	14.8	2.3
							8/9/01	57.35	85.75	12.7	0.2
							11/8/01	57.75	85.35	12.3	-0.3
CL1-MW-12(MD)	140	150	145.75	5.7	0.75	-4.3	5/3/01	58.79	86.96	91.3	86.2
							8/9/01	65.11	80.64	84.9	79.9
							11/8/01	61.78	83.97	88.3	83.2

TABLE 1
Well Construction and Water Level Data

	Well Construction Data						Water Level Data				
Well Designation	Approximate Depth of Screened Interval (ft. bgs[1])		Top of Casing Elevation (ft. amsl[2])	Approximate Elevation of Screened Interval (ft. amsl[2])			Date	Depth to Water (ft. btoc[3])	Water Level Elevation (ft. amsl[2])	Depth of Screen Bottom Below Water Level (feet)	Depth of Screen Midpoint Below Water Table (feet)
	top	bottom		top	midpoint	bottom					
CL2-MP-02 A	28	38	122.86	94.8	89.9	84.9	5/3/01	DRY	DRY	DRY	DRY
							8/9/01	DRY	DRY	DRY	DRY
							11/8/01	DRY	DRY	DRY	DRY
CL2-MP-05 A	38	43	125.64	84.9	82.4	79.9	5/3/01	40.47	85.17	5.3	2.8
							8/9/01	DRY	DRY	DRY	DRY
							11/8/01	DRY	DRY	DRY	DRY
CL2-MW-05	80	90	122.16	42.2	37.1	32.2	11/7/00	37.21	84.95	52.8	47.9
							1/29/01	36.89	85.27	53.1	48.2
							5/3/01	37.57	84.59	52.4	47.5
							8/9/01	41.84	80.32	48.1	43.2
							11/8/01	40.67	81.49	49.3	44.4
BG-MW-01	84	104	167.68	83.7	73.7	63.7	11/7/00	76.76	90.92	27.2	17.2
(Not Included in Sampling Program)							1/29/01	76.32	91.36	27.7	17.7
							5/3/01	77.18	90.50	26.8	16.8
							8/9/01	80.86	86.82	23.1	13.1
							11/8/01	78.10	89.58	25.9	15.9
BG-MW-03	65	85	153.32	88.3	78.3	68.3	11/8/00	65.28	88.04	19.7	9.7
(Not Included in Sampling Program)							1/29/01	64.57	88.75	20.5	10.5
							5/3/01	64.85	88.47	20.2	10.2
			155.10				8/9/01	NA	NA	NA	NA
							11/8/01	69.48	85.62	17.3	7.3

[1] ft. bgs - feet below ground surface
[2] ft. amsl - feet above mean sea level
[3] ft. btoc - feet below top of casing

Table 2
Selected Monitoring Wells for Fall 2001

Well ID	Description	Screened Interval (ft bgs)	Approximate Depth of Screen Midpoint Below Water Table (feet)
Site 11			
11-MW-03	Close to decommissioned wells where petroleum hydrocarbons were previously detected.	50 – 75	6
11-MW-04	Shallow well at boundary of Site 11.	49-74	8
Site 17			
17-MW-03	Well that consistently has the highest carbon tetrachloride concentrations.	97-107	45
17-MW-06	Western-most shallow well at Site 17 plume.	50-75	10
17-MW-08	Shallow aquifer well on the northern plume boundary of Site 17.	50-75	9
17-MW-09	Northern-most mid-shallow well at Site 17 plume. Shows higher concentration than paired shallow.	102-112	53
17-MW-11	Furthest downgradient mid-shallow well at Site 17 plume.	108.5-118.5	61
17-MW-13	Mid-shallow well downgradient of source at UST Cluster 1 and upgradient of Site 17 plume.	95-105	41
17-MW-15	Deep well near source at Site 17.	260-270	197
17-MW-18	Northern-most mid-deep well at Site 17 plume.	170-180	120
17-MW-24 (S)	Furthest downgradient shallow well at Administration Area plume.	43-63	5
17-MW-24 (MS)	17-MW-24(MS) is a mid-shallow well downgradient of Site 17.	89-109	50
17-MW-25 (S)	17-MW-25 is a shallow well downgradient of UST 117 and Site 17.	50-70	8
17-MW-25 (MS)	17-MW-25(MS) is a mid-shallow well downgradient of UST 117 and Site 17.	89-109	47
UST 109			
109-MW-01	Shallow aquifer well inside the UST 109 soil contamination area	43-68	5

Table 2 (continued)
Selected Monitoring Wells for Fall 2001

Well ID	Description	Screened Interval (ft bgs)	Approximate Depth of Screen Midpoint Below Water Table (feet)
UST 117			
117-MW-08	Furthest downgradient mid-deep well at Administration Area plume.	170-179	117
117-MW-09	Furthest downgradient deep well at Administration Area plume.	260-270	197
117-MW-10(S)	Well 117-MW-02(S) is currently sampled monthly as part of groundwater extraction – 117-MW-10(S) is downgradient of extraction and of future HRC™ injection.	55-75	9
UST Cluster 1			
CL1-MW-04	Downgradient (leading edge) of UST Cluster 1 plume.	50-75	4
CL1-MW-05	Upgradient of Administration Area plume.	50-75	6
CL1-MW-06	Upgradient of UST Cluster 1 and Administration Area plume.	54-79	6
CL1-MW-09(S)	Shallow well downgradient (leading edge) of UST Cluster 1 and upgradient (leading edge) of Site 17.	45-70	0
CL1-MW-12(MD)	Mid-deep well near source at UST Cluster 1.	140-150	83
UST Cluster 2			
CL2-MP-02A	Well that consistently has highest petroleum hydrocarbon concentrations at UST Cluster 2.	28-38	NA
CL2-MP-05A	Downgradient of UST Cluster 2 plume.	38-43	NA
CL2-MW-05	Mid-shallow well near source of contamination at UST Cluster 2.	80-90	44

ft bgs denotes feet below ground surface.
HRC™ denotes Hydrogen Release Compound™.

Table 3
Groundwater Analytical Data Summary, November 2001

Sample ID	Method	11-MW-03	11-MW-04	109-MW-01	17-MW-03	17-MW-03 dup	17-MW-06	17-MW-08	17-MW-08 dup	17-MW-09	17-MW-11	17-MW-13	17-MW-15	17-MW-18	17-MW-24(S)
Aquifer		shallow	shallow	shallow	mid shallow	CL-99-19	shallow	shallow	CL-99-17	mid shallow	mid shallow	mid shallow	deep	mid deep	shallow
Screen Interval (ft bgs)		50-75	49-74	43-68	97-107		50-75	50-75		102-112	108.5-118.5	95-105	260-270	170-180	42-62
alkalinity	310.1	226 mg/L	296 mg/L	213 mg/L	164 mg/L	170 mg/L	42.6 mg/L	104 mg/L	113 mg/L	130 mg/L	194 mg/L	243 mg/L	90.5 mg/L	158 mg/L	347 mg/L
TDS	160.1	892 mg/L	815 mg/L	794 mg/L	793 mg/L	786 mg/L	97 mg/L	1140 mg/L	1020 mg/L	1050 mg/L	740 mg/L	1340 mg/L	1360 mg/L	753 mg/L	903 mg/L
chloride	9056	127 mg/L	95.1 mg/L	57 mg/L	43.1 mg/L	43.1 mg/L	0.86 mg/L	52.5 mg/L	52 mg/L	42.1 mg/L	70.7 mg/L	124 mg/L	51.7 mg/L	37.7 mg/L	112 mg/L
nitrate	9056	14.6 mg/L	10.1 mg/L	9.9 mg/L	25 mg/L	24.8 mg/L	1.2 mg/L	31.2 mg/L	31.7 mg/L	24.3 mg/L	7.8 mg/L	5.2 mg/L	<1.6 mg/L	12.3 mg/L	16 mg/L
nitrite	9056	<0.75 mg/L	<0.5 mg/L	<0.5 mg/L	<0.5 mg/L	<0.5 mg/L	0.12 mg/L	<1.3 mg/L	<1 mg/L	<1.3 mg/L	<0.5 mg/L	<1 mg/L	<2 mg/L	<0.63 mg/L	<1 mg/L
orthophosphate	9056	<1.5 mg/L	<1 mg/L	<1 mg/L	<1 mg/L	<1 mg/L	0.2 mg/L	<2.5 mg/L	<2 mg/L	<2.5 mg/L	<1 mg/L	<2 mg/L	<4 mg/L	<1.3 mg/L	<2 mg/L
sulfate	9056	259 mg/L	213 mg/L	292 mg/L	287 mg/L	289 mg/L	5.4 mg/L	544 mg/L	556 mg/L	481 mg/L	302 mg/L	566 mg/L	879 mg/L	327 mg/L	229 mg/L
antimony	6010B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
arsenic	6010B	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L
barium	6010B	46.7 µg/L	76.9 µg/L	23.1 µg/L	25 µg/L	25.3 µg/L	13.2 µg/L	15.6 µg/L	14.7 µg/L	19.9 µg/L	41.4 µg/L	23.3 µg/L	18.6 µg/L	14.8 µg/L	25.6 µg/L
beryllium	6010B	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L
cadmium	6010B	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L
chromium	6010B	13.5 µg/L	6.2 µg/L	15.8 µg/L	37.3 µg/L	38.1 µg/L	4.5J µg/L	26.5 µg/L	26 µg/L	21.7 µg/L	3.3J µg/L	<5 µg/L	4.0J µg/L	30.1 µg/L	9.1 µg/L
cobolt	6010B	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	0.40J µg/L	<5 µg/L	<5 µg/L	<5 µg/L
copper	6010B	27.3 µg/L	25.4 µg/L	20.7 µg/L	7.3J µg/L	7.4J µg/L	43.2 µg/L	28.5 µg/L	27.4 µg/L	14.7 µg/L	4.4J µg/L	3.7J µg/L	3.4J µg/L	2.6J µg/L	51.2 µg/L
lead	6010B	0.84J µg/L	1.2J µg/L	<5 µg/L	<5 µg/L	<5 µg/L	1.4J µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L
mercury	7470	0.17J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.079J µg/L	0.11J µg/L	0.12J µg/L	0.14J µg/L	0.12J µg/L	0.15J µg/L	<0.5 µg/L	0.12J µg/L
molybdenum	6010B	5.5 µg/L	<7.2 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	7.1 µg/L	8.9 µg/L	<5 µg/L	<5 µg/L	<5 µg/L
nickel	6010B	13.1 µg/L	13.9 µg/L	9.3 µg/L	<5 µg/L	<5 µg/L	13.6 µg/L	16.6 µg/L	15.5 µg/L	8.6 µg/L	3.2J µg/L	<5 µg/L	<5 µg/L	2.2J µg/L	8.7 µg/L
selenium	6010B	<10 µg/L	<10 µg/L	10.5 µg/L	<12.2 µg/L	13.6 µg/L	<10 µg/L	25.1 µg/L	28 µg/L	21.1 µg/L	11.2 µg/L	<10 µg/L	<10 µg/L	13.3 µg/L	<10 µg/L
silver	6010B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	1.7J µg/L	<10 µg/L
thallium	6010B	<10J µg/L	<10J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10J µg/L
vanadium	6010B	<10 µg/L	3.9J µg/L	<10 µg/L	2.0J µg/L	2.2J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	2.2J µg/L	1.3J µg/L	<10 µg/L	7.2J µg/L	<10 µg/L
zinc	6010B	36.4 µg/L	72.4 µg/L	179 µg/L	249 µg/L	256 µg/L	42.6 µg/L	156 µg/L	155 µg/L	76.2 µg/L	430 µg/L	434 µg/L	67.8 µg/L	64.9 µg/L	215 µg/L
hexavalent chromium	7196A	<0.02 mg/L	<0.02 mg/L	<0.02 mg/L	0.04 mg/L	0.03 mg/L	0.02 mg/L	0.0063J mg/L	0.015J mg/L	0.0076J mg/L	<0.02 mg/L	0.02 mg/L	0.02 mg/L	0.0241 mg/L	0.02 mg/L
TPH-gasoline	M8015B	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	0.27 mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L
TPH-jet fuel	M8015B	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L
TPH-diesel	M8015B	<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	<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	<0.1[a] mg/L	<0.1[a] mg/L	<0.1[a] mg/L	<0.1[a] mg/L
TPH-motor oil	M8015B	0.08J mg/L	0.1J mg/L	<0.1 mg/L	<0.1 mg/L	0.09J mg/L	0.47 mg/L	0.06J mg/L	0.07J mg/L	0.1J mg/L	<0.1[b] mg/L	<0.1 mg/L	<0.1[b] mg/L	<0.1[b] mg/L	0.1 mg/L
acetone	8260B	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	67J µg/L	<10J µg/L	<10J µg/L	<10J µg/L
benzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.4J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	4.2 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
bromodichloromethane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
sec-butylbenzene	8260B	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	0.6J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L
tert-butylbenzene	8260B	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	2.1 µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L
carbon disulfide	8260B	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10 µg/L	0.7J µg/L	<10J µg/L	<10J µg/L
carbon tetrachloride	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	118 µg/L	142 µg/L	<0.5 µg/L	1.4 µg/L	1.3 µg/L	1.9 µg/L	2.3 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
chloroform	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	7.9 µg/L	10.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
dibromochloromethane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,1-dichloroethane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,2-dichloroethane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	5.3 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,2-dichloropropane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
ethylbenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.3J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
2-hexanone	8260B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
isopropylbenzene (cumene)	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	126 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
p-isopropyltoluene (p-cymene)	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5 µg/L
2-butanone (MEK)	8260B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
methylene chloride	8260B	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	4 µg/L	<2 µg/L	<2 µg/L	<2 µg/L
methyl isobutyl ketone (MIBK)	8260B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
MTBE	8260B	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L
napthalene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
n-propylbenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5J µg/L	2.2J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5 µg/L
tert-butyl alcohol	8260B	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	260J µg/L	<20J µg/L	<20J µg/L	<20J µg/L
toluene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.4J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
TCE	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,2,4-trichlorobenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,3,5-trichlorobenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.3J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
xylenes	8260B	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L

Table 3
Groundwater Analytical Data Summary, November 2001

Sample ID	Method	17-MW-24(MS)	17-MW-25(S)	17-MW-25(MS)	17-MW-25(MS)	117-MW-08	117-MW-09	117-MW-10(S)	CL1-MW-04	CL1-MW-05	CL1-MW-06	CL1-MW-09(S)	CL1-MW-12(MD)	CL2-MW-05	NASA Well
Aquifer		mid shallow	shallow	mid shallow	dup	mid deep	deep	shallow	shallow	shallow	shallow	shallow	mid deep	mid shallow	
Screen Interval (ft bgs)		89-109	50-70	90-110	CL-99-18	170-179	260-270	50-75	50-75	50-75	54-79	45-70	140-150	80-90	
alkalinity	310.1	156 mg/L	285 mg/L	219 mg/L	213 mg/L	149 mg/L	194 mg/L	409 mg/L	290 mg/L	198 mg/L	234 mg/L	294 mg/L	279 mg/L	345 mg/L	128 mg/L
TDS	160.1	810 mg/L	1120 mg/L	732 mg/L	704 mg/L	716 mg/L	1390 mg/L	740 mg/L	835 mg/L	700 mg/L	1450 mg/L	1440 mg/L	842 mg/L	842 mg/L	1090 mg/L
chloride	9056	119 mg/L	167 mg/L	90 mg/L	92.8 mg/L	58.2 mg/L	49.1 mg/L	154 mg/L	68.5 mg/L	18.3 mg/L	88.4 mg/L	122 mg/L	61 mg/L	116 mg/L	89.4 mg/L
nitrate	9056	15.6 mg/L	9.6 mg/L	10.8 mg/L	11 mg/L	11.1 mg/L	<1.6 mg/L	1.4 mg/L	4 mg/L	14.7 mg/L	25 mg/L	12.8 mg/L	0.74 mg/L	9.4 mg/L	14.3 mg/L
nitrite	9056	<1 mg/L	<1 mg/L	<1 mg/L	<1 mg/L	<0.5 mg/L	<2 mg/L	<1 mg/L	<0.5 mg/L	<0.4 mg/L	<2 mg/L	4.7 mg/L	<0.5 mg/L	<1 mg/L	<1 mg/L
orthophosphate	9056	<2 mg/L	<2 mg/L	<2 mg/L	<2 mg/L	<1 mg/L	<4 mg/L	<2 mg/L	<1 mg/L	<0.8 mg/L	<4 mg/L	<2 mg/L	1.3 mg/L	<2 mg/L	<2 mg/L
sulfate	9056	260 mg/L	504 mg/L	205 mg/L	209 mg/L	321 mg/L	763 mg/L	91.5 mg/L	295 mg/L	248 mg/L	747 mg/L	643 mg/L	316 mg/L	156 mg/L	751 mg/L
antimony	6010B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
arsenic	6010B	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	2.2J µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	8.9 µg/L	<5 µg/L	<5 µg/L
barium	6010B	33.9 µg/L	23.4 µg/L	17.9 µg/L	16.9 µg/L	18.4 µg/L	17.7 µg/L	92.1 µg/L	26.9 µg/L	20.9 µg/L	17.9 µg/L	12.8 µg/L	56.7 µg/L	37.3 µg/L	32.7 µg/L
beryllium	6010B	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L
cadmium	6010B	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L
chromium	6010B	6.6 µg/L	10.2 µg/L	5.8 µg/L	5.9 µg/L	29.8 µg/L	5.9 µg/L	<5 µg/L	5.9 µg/L	27.2 µg/L	27.6 µg/L	<5 µg/L	<5 µg/L	21.2 µg/L	10.9 µg/L
cobolt	6010B	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	0.73J µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L
copper	6010B	19.3 µg/L	39.7 µg/L	9.4J µg/L	9.0J µg/L	10.3 µg/L	12.1 µg/L	5.5J µg/L	3.1J µg/L	<10 µg/L	4.6J µg/L	3.6J µg/L	3.3J µg/L	36.8 µg/L	7.1J µg/L
lead	6010B	0.92J µg/L	2.0J µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	1.1J µg/L	<5 µg/L	<5 µg/L	<5 µg/L
mercury	7470	<0.5 µg/L	0.14J µg/L	0.12J µg/L	0.13J µg/L	0.17J µg/L	0.18J µg/L	0.089J µg/L	0.16J µg/L	0.11J µg/L	<0.5 µg/L	0.16J µg/L	0.087J µg/L	0.13J µg/L	<0.5 µg/L
molybdenum	6010B	6.9 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	4.8J µg/L	8.9 µg/L	12 µg/L	<5 µg/L	<5 µg/L	6.7 µg/L	5.4 µg/L	<5 µg/L	<5 µg/L	<5 µg/L
nickel	6010B	15.9 µg/L	10.7 µg/L	<5 µg/L	14.7 µg/L	4.0J µg/L	6.6 µg/L	<5 µg/L	<5 µg/L	<5 µg/L	3.8J µg/L	<5 µg/L	<5 µg/L	25.5 µg/L	<5 µg/L
selenium	6010B	<10 µg/L	12.9 µg/L	10.1 µg/L	10.2 µg/L	13.4 µg/L	5.5J µg/L	<10 µg/L	7.4J µg/L	<10 µg/L	60.5 µg/L	16.5 µg/L	<10 µg/L	<10 µg/L	40.9 µg/L
silver	6010B	<10 µg/L	<10 µg/L	<10 µg/L	1.1J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	1.0J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	0.93J µg/L
thallium	6010B	<10J µg/L	<10.6J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10J µg/L	<10 µg/L
vanadium	6010B	<10 µg/L	4.5J µg/L	2.0J µg/L	2.0J µg/L	9.2J µg/L	0.64J µg/L	0.82J µg/L	2.2J µg/L	<10 µg/L	2.1J µg/L	1.9J µg/L	<10 µg/L	<10 µg/L	3.8J µg/L
zinc	6010B	61.3 µg/L	185 µg/L	129 µg/L	131 µg/L	154 µg/L	154 µg/L	471 µg/L	83.7 µg/L	14 µg/L	598 µg/L	95.4 µg/L	24 µg/L	257 µg/L	112 µg/L
hexavalent chromium	7196A	0.02 mg/L	0.02 mg/L	<0.02 mg/L	<0.02 mg/L	0.0241 mg/L	<0.02 mg/L	<0.02 mg/L	<0.02 mg/L	<0.02 mg/L	0.0081J mg/L	<0.02 mg/L	<0.02 mg/L	0.023 mg/L	<0.02 mg/L
TPH-gasoline	M8015B	<0.05J mg/L	<0.05J mg/L	<0.08 mg/L	<0.09 mg/L	<0.05J mg/L	<0.05J mg/L	0.15 mg/L	<0.05J mg/L	<0.05J mg/L	<0.05J mg/L	0.37 mg/L	23.6 mg/L	<0.05J mg/L	<0.05J mg/L
TPH-jet fuel	M8015B	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L
TPH-diesel	M8015B	<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	<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	<0.1[a] mg/L	<0.1[a] mg/L	<0.1[a] mg/L	<0.1[a] mg/L
TPH-motor oil	M8015B	0.06J mg/L	<0.1 mg/L	<0.1 mg/L	<0.1 mg/L	<0.1 mg/L	<0.1[b] mg/L	<0.1 mg/L	<0.1 mg/L	<0.1 mg/L	<0.1 mg/L	<0.1 mg/L	<0.1 mg/L	0.07J mg/L	<0.1 mg/L
acetone	8260B	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L
benzene	8260B	<0.5 µg/L	<0.5 µg/L	13.6 µg/L	13.6 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	197 µg/L	12,600 µg/L	<0.5 µg/L	<0.5 µg/L
bromodichloromethane	8260B	<0.5 µg/L	0.6 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
sec-butylbenzene	8260B	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	0.3J µg/L	3.7J µg/L	<0.5J µg/L	<0.5J µg/L
tert-butylbenzene	8260B	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	4.1J µg/L	<0.5J µg/L	<0.5J µg/L
carbon disulfide	8260B	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L	<10J µg/L
carbon tetrachloride	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	2.5 µg/L	<0.5 µg/L	<0.5 µg/L
chloroform	8260B	<0.5 µg/L	0.5 µg/L	0.5J µg/L	0.4J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	18.8 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
dibromochloromethane	8260B	<0.5 µg/L	0.8 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,1-dichloroethane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,2-dichloroethane	8260B	<0.5 µg/L	<0.5 µg/L	1 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	155 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	10.3 µg/L	132 µg/L	<0.5 µg/L	<0.5 µg/L
1,2-dichloropropane	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.8 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
ethylbenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	4.5 µg/L	<0.5 µg/L	<0.5 µg/L
2-hexanone	8260B	<10 µg/L	<10 µg/L	<10 µg/L	0.9J µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
isopropylbenzene (cumene)	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	1250 µg/L	<0.5 µg/L	<0.5 µg/L
p-isopropyltoluene (p-cymene)	8260B	<0.5 µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	0.5J µg/L	<0.5 µg/L	<0.5J µg/L
2-butanone (MEK)	8260B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
methylene chloride	8260B	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L	<2 µg/L
methyl isobutyl ketone (MIBK)	8260B	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L	<10 µg/L
MTBE	8260B	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L
napthalene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	3.2 µg/L	<0.5 µg/L	<0.5 µg/L
n-propylbenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5J µg/L	<0.5 µg/L	<0.5J µg/L	<0.5J µg/L	7.5J µg/L	<0.5 µg/L	<0.5J µg/L
tert-butyl alcohol	8260B	<20J µg/L	<20J µg/L	36J µg/L	38J µg/L	<20J µg/L	<20J µg/L	160J µg/L	<20J µg/L	<20J µg/L	<20J µg/L	48J µg/L	<20J µg/L	<20J µg/L	<20J µg/L
toluene	8260B	<0.5 µg/L	<0.5 µg/L	0.4J µg/L	0.5J µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.4J µg/L	2.5 µg/L	<0.5 µg/L	<0.5 µg/L
TCE	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L
1,2,4-trichlorobenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	11.2 µg/L	<0.5 µg/L	<0.5 µg/L
1,3,5-trichlorobenzene	8260B	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	<0.5 µg/L	0.5 µg/L	<0.5 µg/L	<0.5 µg/L
xylenes	8260B	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	<1 µg/L	6.5 µg/L	<1 µg/L	<1 µg/L

Detections are bolded.
J qualifier indicates tha t the associated numerical value is estimated.
[a] Sample chromatogram contained some unknown peaks in the C_{14} and C_{16} range.
[b] Sample chromatogram contained some unknown peak in motor oil range.

Table 4
Wells for Winter Quarterly Monitoring

Site	Well ID	Aquifer	Screen Interval
Background	BG-MW-01	shallow	84 - 104
	BG-MW-02	shallow	80 - 100
	BG-MW-03	shallow	65 - 85
Site 11	11-MW-03	shallow	50 - 75
	11-MW-04	shallow	49 - 74
UST Cluster 2	CL2-MW-01	shallow	29 - 54
	CL2-MW-02	shallow	29 - 54
	CL2-MW-05	mid-shallow	80 - 90
	CL2-MP-01B	shallow	41 - 51
	CL2-MP-02B	shallow	40.5 - 50.5
	CL2-MP-04A[1]	shallow	38 - 43
	CL2-MP-05A[1]	shallow	38 - 43
	CL2-MP-06A[1]	shallow	38 - 43
UST 109	109-MW-01	shallow	40 - 68
UST 117[2]	117-MW-01	shallow	50 - 75
	117-MW-04	shallow	49 - 74
	117-MW-05	shallow	50 - 75
	117-MW-06	mid-deep	175 - 185
	117-MW-07	mid-shallow	108 - 118
	117-MW-08	mid-deep	170 - 179
	117-MW-09	deep	260 - 270
	117-MW-10(S)	shallow	50 - 75
	117-MW-10(MS)	mid-shallow	115 - 125
	117-MW-10(MD)	mid-deep	185 - 195
	117-MW-11(S)	shallow	50 - 75
	117-MW-11(MS)	mid-shallow	115 - 125
	117-MW-11(MD)	mid-deep	185 - 195
	117-MW-12(D)	deep	238 - 248
	MW117-4	shallow	36 - 56
UST Cluster 1[3]	CL1-MW-01	shallow	53.5 - 78.5
	CL1-MW-02	shallow	53 - 78
	CL1-MW-03	mid-shallow	104 - 114
	CL1-MW-04	shallow	50 - 75
	CL1-MW-05	shallow	50 - 75
	CL1-MW-06	shallow	54 - 79
	CL1-MW-07	mid-deep	165 - 175
	CL1-MW-08	mid-shallow	109 - 119
	CL1-MW-09(S)	shallow	45 - 70
	CL1-MW-09(MS)	mid-shallow	95 - 105
	CL1-MW-10(S)	shallow	45 - 70
	CL1-MW-10(MS)	mid-shallow	98.5 - 108.5
	CL1-MW-10(MD)	mid-deep	140 - 150
	CL1-MW-11(S)	shallow	45 - 70
	CL1-MW-11(MS)	mid-shallow	100 - 110
	CL1-MW-11(MD)	mid-deep	140 - 150
	CL1-MW-12(MS)	mid-shallow	100 - 110

Table 4
Wells for Winter Quarterly Monitoring

Site	Well ID	Aquifer	Screen Interval
UST Cluster 1 (cont)	CL1-MW-12(MD)	mid-deep	140 - 150
	CL1-MW-13(MD)	mid-deep	140 - 150
	CL1-MW-14(S)	shallow	45 - 70
	CL1-MW-14(MS)	mid-shallow	100.5 - 110.5
Site 17	17-MP-06(A)	shallow	35 - 65
	17-MP-06(C)	mid-shallow	99 - 109
	17-MP-06(D)	mid-deep	148 - 158
	17-MW-01	shallow	50 - 70
	17-MW-02	shallow	49 - 74
	17-MW-03	mid-shallow	97 - 107
	17-MW-04	shallow	50 - 75
	17-MW-05	mid-shallow	94 - 104
	17-MW-06	shallow	50 - 75
	17-MW-07	mid-shallow	114 - 124
	17-MW-08	shallow	50 - 75
	17-MW-09	mid-shallow	102 - 112
	17-MW-10	mid-shallow	94 - 104
	17-MW-11	mid-shallow	108.5 - 118.5
	17-MW-12	shallow	50 - 75
	17-MW-13	mid-shallow	95 - 105
	17-MW-14	mid-deep	170 - 180
	17-MW-15	deep	260 - 270
	17-MW-16	mid-deep	170 - 180
	17-MW-17	deep	250 - 260
	17-MW-18	mid-deep	170 - 180
	17-MW-19	deep	255 - 265
	17-MW-20(A)	shallow	45 - 75
	17-MW-20(B)	mid-shallow	100 - 110
	17-MW-20(C)	mid-deep	150 - 160
	17-MW-21	mid-deep	170 - 180
	17-MW-22	deep	250 - 260
	17-MW-23(S)	shallow	45 - 70
	17-MW-23(MS)	mid-shallow	110 - 110
	17-MW-23(MD)	mid-deep	160 - 170
	17-MW-24(S)	shallow	42 - 62
	17-MW-24(MS)	mid-shallow	89 - 109
	17-MW-25(S)	shallow	50 - 70
	17-MW-25(MS)	mid-shallow	90 - 110

[1] Sample B interval (screen interval at 48 to 58 feet below ground surface) if well dry.

[2] 117-MW-02 and 117-MW-03 should be sampled if not being monitored monthly as part of groundwater extraction activities

[3] CL1-EX-01 and CL1-MW-12(S) should be sampled if not being monitored monthly as part of groundwater extraction activities

APPENDIX A
GROUNDWATER MONITORING DATA FORMS AND SAMPLE COLLECTION LOGS

Quarterly Monitoring – Crow Landing (November 8, 2001)

		Well ID	Screen Interval (ft bgs)	Diameter (inches)	Depth to Water (feet)	Depth to Bottom (feet)
T	1	L 11-MW-03	50 – 75	2	56.67	
T	2	L 11-MW-04	49 – 74	2	52.66	
T	3	L 109-MW-01	43 – 68	2	50.14	
N	4	17-MW-03	97 – 107	2	56.89	
T	5	17-MW-06	50 – 75	2	55.33	
N	6	17-MW-08	50 – 75	2	53.41	
T	7	17-MW-09	102 – 112	2	53.60	
T	8	17-MW-11	108.5 – 118.5	2	52.14	
T	9	17-MW-13	95 – 105	2	58.95	
N	10	17-MW-15	260 – 270	5	67.78	
N	11	17-MW-18	170 - 180	5	54.62	
T	12	17-MW-24(S)	42 – 62	4	49.33	
T	13	17-MW-24 (MS)	90 – 110	4	49.15	
T	14	17-MW-25 (S)	50-70	4	52.41	
T	15	17-MW-25 (MS)	90 – 100	4	52.41	
T	16	117-MW-10(S)	50 – 75	2	55.65	
NO	17	117-MW-08	170 – 179	5	57.20	
N	18	117-MW-09	260 - 270	5	68.28	
T	19	CL1-MW-12(MD)	140 - 150	2	61.78	
T	20	CL1-MW-04	50 – 75	2	58.51	
N	21	CL1-MW-05	50 – 75	2	56.90	
T	22	CL1-MW-06	54 – 79	2	60.11	
N	23	CL1-MW-09(S)	45 - 70	2	57.75	
	24	CL2-MP-02A	28 – 38	2	Dry	
	25	CL2-MP-05A	38 - 43	2	Dry	← water in sump
T	26	L CL2-MW-05	80 - 90	5	40.67	
N	27	BG-MW-01	**Water Level Only**	2	78.10	
N	28	BG-MW-03	**Water Level Only**	2	69.48	

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 11-MW-03
Date: 11-12-01

WELL MEASURMENTS

Depth to Water: 56.67 ft
Depth to Bottom: _____ ft
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

Screen Depth 50-75 ft.

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
7.57	.5	7.25	1.27	19.5	1.01	257	
8:00	1	7.28	1.26	20.5	0.84	219	
8:02	1.5	7.30	1.28	20.7	1.06	202	
8:04	2.0	7.31	1.30	21.0	1.33	155	
8:06	3.0	7.31	1.32	21.3	1.65	175	
8:10	3.5	7.31	1.32	21.2	1.69	185	

SAMPLING INFORMATION

Sample Number:	11-MW-03 (11/01)
Sample Date/Time:	11-12-01
Sampler ID:	Hector Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 11-MW-04
Date: 11-12-01

WELL MEASUREMENTS

Depth to Water: 53.66 ft
Depth to Bottom: _____ ft
Screen Depth: 49-74 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3%*	*±1°C*	*± 10%*	*None*	
8:53	2	7.29	1.16	19.3	0.34	78	
8:56	2.5	7.28	1.17	19.5	0.37	58	
8:59	3.5	7.28	1.18	19.6	0.39	44	

SAMPLING INFORMATION

Sample Number:	11-MW-04 (11-01)
Sample Date/Time:	11-12-01
Sampler ID:	Hector Marino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 109-MW-01
Date: 11/12/01

WELL MEASUREMENTS

Depth to Water: 50.14 ft
Depth to Bottom: _____ ft
Screen Depth: 43-68 ft.

Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond ~~(us/ms)~~ ms/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
Start	—	—	—	—	—	—	
0952	1000	7.27	1.12	21.7	8.06	700	
0955	2500	7.26	1.12	22.9	7.76	461	
0958	4000	7.26	1.11	23.2	7.61	360	
1001	5000	7.26	1.10	23.6	7.64	236	

SAMPLING INFORMATION

Sample Number:	109-MW-01
Sample Date/Time:	11/12/01 1015
Sampler ID:	RCM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-03
Date: 11/14/01

WELL MEASUREMENTS

Depth to Water : 56.89 ft
Depth to Bottom: _____ ft
Screen Depth: 97-107 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond ~~(us/ms)~~ mS/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3%*	*±1°C*	*± 10%*	*None*	
0909	Start	—	—	—	—	—	
0912	1000	7.30	1.15	20.1	6.16	58	
0915	2500	7.33	1.14	20.6	5.74	60	
0918	4000	7.33	1.15	20.8	5.51	50	
0921	5500	7.33	1.15	21.3	5.43	60	

SAMPLING INFORMATION

Sample Number:	17-MW-03 & CL-99-19 Field Duplicate
Sample Date/Time:	11/14/01 0930 0940
Sampler ID:	PEM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-06
Date: 11-12-01

WELL MEASURMENTS

Depth to Water: 55.33 ft
Depth to Bottom: _____ ft
Screen Depth: 55-75 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
12:54		8.03	.093	18.3	7.79	999	
12:56		8.08	.091	18.6	7.85	999	
12:58		8.13	.095	19.3	7.09	999	
13:00		8.16	.100	20.1	6.66	999	
13:10		8.08	.095	19.9	6.12	999	
13:12		8.02	.091	20.7	6.50	999	
13:14		8.03	.088	21.0	6.29	499	
13:16		8.03	.084	20.8	6.32	326	
13:18		8.02	.085	20.7	6.41	385	

SAMPLING INFORMATION

Sample Number:	17-MW-06 (11/01)
Sample Date/Time:	11-12-01
Sampler ID:	Hector Navarro
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-08
Date: 11-12-01

WELL MEASURMENTS

Depth to Water : 53.41 ft
Depth to Bottom: _____ ft
Screen Depth: 50.70 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
1025		7.66	1.45	19.1	6.86	241	
1030		7.66	1.45	19.6	7.11	241	
1035		7.63	1.46	21.3	7.09	135	
1040		7.63	1.46	21.9	6.50	82	
1045		7.63	1.46	21.4	6.32	68	
1048		7.62	1.48	21.4	6.24	62	

SAMPLING INFORMATION

Sample Number:	17-MW-08 (11-01) CL-99-17 (Field Dup)
Sample Date/Time:	11-12-01 1050
Sampler ID:	L Marino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 17-MW-09

Project Number: **800063** Date: 11-12-01

Project Location: **Crows Landing, CA**

WELL MEASUREMENTS

Depth to Water: 53.60 ft Screen Depth: 102-112 ft.

Depth to Bottom: _____ ft

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
11:44		7.62	1.27	18.5	7.49	88	
11:46		7.61	1.29	19.1	7.41	92	
11:48		7.61	1.29	19.6	7.23	144	
11:50		7.61	1.29	19.8	7.16	146	
12:00		7.60	1.34	19.8	7.16	135	
12:02		7.60	1.33	19.9	7.06	139	

SAMPLING INFORMATION

Sample Number:	17-MW-09 (11/12/01)
Sample Date/Time:	11-12-01
Sampler ID:	A Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

Project Name: **Crows Landing** Well ID: 17-MW-11

Project Number: **800063** Date: 11-13-01

Project Location: **Crows Landing, CA**

WELL MEASUREMENTS

Depth to Water : 52.14 ft Screen Depth 102-112 ft.

Depth to Bottom: _____ ft

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
8:04	1 Gallon	7.24	1.15	19.7	0.93	126	
8:06	1.5	7.40	1.21	19.7	8.40	605	
8:08	2.0	7.40	1.19	20.1	157	999	
8:10	2.5	7.40	1.17	20.0	1.21	999	
8:12	3.0	7.39	1.15	20.7	0.50	368	
8:14	3.5	7.38	1.15	20.8	0.22	269	
8:16	4.0	7.37	1.13	22.1	0.22	4.79	
8:18	5.0	7.37	1.14	22.6	0.24	3.40	
8:20	5.5	7.38	1.14	22.5	0.26	21.4	

SAMPLING INFORMATION

Sample Number:	17-MW-11 (11/01)
Sample Date/Time:	11-13-01 – 8:25
Sampler ID:	Hector Marino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: ~~17-MW-03~~ 17-MW-13
Date: 11-14-01

WELL MEASURMENTS

Depth to Water: ~~56.89~~ 58.95 ft
Depth to Bottom: _____ ft
Screen Depth: ~~97-107~~ 95-105 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
9:14	.5	7.41	1.81	19.4	9.16	161	
9:16	1	7.35	1.81	19.9	8.88	181	
9:18	1.5	7.30	1.80	21.3	8.72	551	
9:20	2.0	7.26	1.80	21.8	1.10	561	
9:22	2.5	7.26	1.80	21.8	1.16	554	
9:24	3.0	7.22	1.79	21.9	1.10	474	

SAMPLING INFORMATION

Sample Number:	17-MW ~~03~~ (11/01) 17-MW-13
Sample Date/Time:	11-14-01 — 9:30
Sampler ID:	Hector Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-15
Date: 11/13/01

WELL MEASUREMENTS

Depth to Water: 67.78 ft
Depth to Bottom: _____ ft
Screen Depth: 260-279 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond. ~~(us/ms)~~ ms/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
1343	Start	—	—	—	—	—	
1346	1000	~~X~~ 11.17	2.22	262	5.23	~10	
1349	2000	11.21	2.29	21.2	2.83	~10	
1352	3000	11.22	2.30	21.1	2.47	~10	
1355	4000	11.22	2.25	21.1	1.93	~10	
1358	5000	11.21	2.25	21.3	1.72	~10	meter
1401	6000	11.21	2.27	21.3	1.71	~10	problems
1404	7000	10.95	2.21	21.2	4.29	~10	
1407	8000	10.46	2.04	21.2	3.73	~10	
1410	9000	9.69	2.01	21.2	3.52	~10	
1413	10000	8.65	1.97	21.1	3.04	~10	
1416	11000	8.47	1.96	21.1	2.56	~10	
1419	12000	8.45	1.95	21.2	2.31	~10	
1422	—	Pump	stopped	—	—	—	—

SAMPLING INFORMATION

Sample Number:	17-MW-15
Sample Date/Time:	11/13/01 1440
Sampler ID:	RCM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

Pump stopped white water came up as sample

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-18
Date: 11-13-01

WELL MEASURMENTS

Depth to Water : 54.62 ft
Depth to Bottom: _____ ft
Screen Depth: 170-180 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
11:47	1 Gallon	7.62	1.11	19.8	5.68	-10	
11:49	2 Gallons	7.62	1.10	19.9	5.40	59	
11:54	3 Gallons	7.62	1.10	20.0	5.41	89	
11:56	4 Gallons	7.63	1.09	20.2	5.40	95	
12:00	5 Gallons	7.63	1.09	20.3	5.36	90	

SAMPLING INFORMATION

Sample Number:	17-MW-18
Sample Date/Time:	11-13-01 ← 12:00
Sampler ID:	Hector Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-24(S)
Date: 11/12/01

WELL MEASURMENTS

Depth to Water: 49.33 ft
Screen Depth: 42-62 ft.
Depth to Bottom: _____ ft
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond ~~(us/ms)~~ ms/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
Start 1055	Start	—	—	—	—		
1058	1000	7.05	1.33	20.6	8.35	-10	
1101	2000	7.06	1.38	20.8	8.43	-10	
1104	3500	7.07	1.38	21.8	7.80	-10	
1107	5000	7.07	1.38	21.7	7.77	-10	

SAMPLING INFORMATION

Sample Number:	17-MW-24(S)
Sample Date/Time:	11/12/01 1120
Sampler ID:	Ben
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-24(MS)
Date: 11/12/01

WELL MEASUREMENTS

Depth to Water: 49.15 ft
Depth to Bottom: _____ ft
Screen Depth: 90-110 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3%*	*±1°C*	*± 10%*	*None*	
1208	Start	—	—	—	—	—	
1211	500	7.36	1.15	19.6	9.51	173	
1214	1500	7.35	1.18	19.9	9.32	225	
1217	3000	7.38	1.18	20.4	3.35	187	
1220	4000	7.38	1.18	20.3	6.44	171	
1223	5000	7.39	1.18	20.3	9.01	179	
1226	6000	7.39	1.18	20.4	9.54	158	
1229	7000	7.38	1.18	20.6	8.77	133	

SAMPLING INFORMATION

Sample Number:	17-MW-24(MS)
Sample Date/Time:	11/12/01 1245
Sampler ID:	PEM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-25(S)
Date: 11/12/01

WELL MEASUREMENTS

Depth to Water: 52.41 ft
Depth to Bottom: _____ ft
Screen Depth: 50-70 ft.

Purging Method= Low Flow Pumps (Micro-Purge)

Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time ml	Volume Purged	pH	Cond. ~~(us/ms)~~ ms/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
1402	Start	—	—	—	—	—	
1405	1000	7.17	1.74	19.5	4.10	54	
1408	2500	7.17	1.77	21.5	3.37	-10	
1411	4000	7.17	1.77	21.9	3.27	-10	
1414	5500	7.17	1.76	22.2	3.30	-10	

SAMPLING INFORMATION

Sample Number:	17-MW-25(S) MS MSD
Sample Date/Time:	11/12/01 1430
Sampler ID:	PCM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 17-MW-25(MS)
Date: 11/13/01

WELL MEASURMENTS

Depth to Water : 52.41 ft
Depth to Bottom: _____ ft
Screen Depth: 90-100 ft.

Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond. ~~(us/ml)~~ mS/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
0754	Start	—	—	—	—	—	
0757	1000	7.37	1.15	18.8	2.75	270	
0800	2000	7.43	1.16	19.4	1.51	532	
0803	3000	7.44	1.16	20.0	0.63	488	
0806	4500	7.43	1.15	20.3	0.25	465	
0809	6000	7.43	1.15	20.7	0.13	413	
0812	7500	7.42	1.16	21.0	0.14	363	
0815	9000	7.42	1.15	21.3	0.15	367	
0818	10500	7.42	1.14	21.4	0.14	337	

SAMPLING INFORMATION

Sample Number:	17-MW-25(MS) & CL-99-18
Sample Date/Time:	11/13/01 0835 0845
Sampler ID:	ACM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 117-MW-08
Date: 11/13/01

WELL MEASURMENTS

Depth to Water : 57.20 ft
Depth to Bottom: _____ ft
Screen Depth: 170-179 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond. ~~(us/ms)~~ ms/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
0943	Start	—	—	—	—	—	
0946	1000	7.59	1.19	17.5	7.07	-10	
0949	2000	7.56	1.22	18.4	6.02	-10	
0952	3000	7.54	1.10	19.3	5.40	-10	
0955	4000	7.54	1.09	19.5	5.69	-10	
0958	5000	7.53	1.08	19.9	5.51	-10	

SAMPLING INFORMATION

Sample Number:	117-MW-08
Sample Date/Time:	11/13/01 1015
Sampler ID:	BEM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 117-MW-09
Date: 11/13/01

WELL MEASURMENTS

Depth to Water: 68.28 ft
Depth to Bottom: _____ ft
Screen Depth 260-270 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond ~~(us/ms)~~ mS/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
1159	Start	—	—	—	—	—	
1202	1000	7.58	1.76	20.0	5.86	~10	
1205	2000	7.57	1.80	20.0	5.92	~10	
1208	3000	7.55	1.80	20.2	6.00	~10	

SAMPLING INFORMATION

Sample Number:	117-MW-09
Sample Date/Time:	11/13/01 1220
Sampler ID:	REM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: 117-MW-10(S)
Date: 11/14/01

WELL MEASURMENTS

Depth to Water : 55.65 ft
Depth to Bottom: _____ ft
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

Screen Depth: 50-75 ft.

PURGE DATA

Time	Volume Purged ml	pH	Cond. ~~(us/ms)~~ mS/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
0802	Start	—	—	—	—	—	
0805	1000	6.83	1.36	20.1	0.78	>999	
0808	2000	6.85	1.34	20.8	0.75	627	
0811	3500	6.84	1.34	21.9	0.60	222	
0814	4500	6.82	1.34	23.0	0.49	110	
0817	6000	6.81	1.34	23.5	0.45	80	
0820	7500	6.81	1.35	24.0	0.50	52	

SAMPLING INFORMATION

Sample Number:	117-MW-10(S)
Sample Date/Time:	11/14/01 0830
Sampler ID:	RDM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: CLI-MW-04
Date: 11-13-01

WELL MEASURMENTS

Depth to Water : 58.51 ft
Screen Depth: 50-75 ft.
Depth to Bottom: _____ ft
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
10:52	.5	7.18	1.11	20.3	3.10	212	
10:54	1 Gallon	7.17	1.18	21.2	2.31	159	
10:56	1.5	7.17	1.20	21.5	1.72	104	
10:58	2.0	7.17	1.21	21.6	1.51	90	
11:00	2.5	7.16	1.22	21.6	1.33	60	
11:02	3.0	7.15	1.24	21.7	1.19	-10	
11:04	3.5	7.17	1.24	21.8	1.67	-10	
11:06	4.0	7.17	1.24	21.8	1.55		

SAMPLING INFORMATION

Sample Number:	CLI-MW-04 (11/01)
Sample Date/Time:	11-13-01 — 11:10
Sampler ID:	Hector Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: CL1-MW-05
Date: 11-12-01

WELL MEASURMENTS

Depth to Water: 56.90 ft
Depth to Bottom: _____ ft
Screen Depth: 50-75 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3%*	*±1°C*	*± 10%*	*None*	
9:41	1.5	7.61	0.95	20.3	5.30	.31	
9:43	2.0	7.62	0.96	20.4	5.41	.31	
9:46	3.0	7.61	0.98	20.5	5.50	.21	

SAMPLING INFORMATION

Sample Number:	CL1-MW-05 (11-01)
Sample Date/Time:	11-12-01
Sampler ID:	H Marino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: CLI-MW-06
Date: 11-13-01

WELL MEASURMENTS

Depth to Water: 60.11 ft
Depth to Bottom: _____ ft
Screen Depth: 54-79 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
9:02	.5	7.23	2.18	19.7	3.29	163	
9:04	1 Gallon	7.20	2.21	20.4	2.99	77	
9:06	1.5	7.20	2.01	21.1	3.50	59	
9:08	2.0	7.24	1.67	21.4	8.52	22	
9:10	2.5	7.27	1.68	21.4	8.47	-7	
9:12	3.0	7.28	1.68	21.4	8.42	-10	
9:14	3.5	7.31	1.68	21.4	8.34	-10	
9:16	4.0	7.23	1.79	22.7	4.12	-10	WELL DRY
9:18							

SAMPLING INFORMATION

Sample Number:	CLI-MW-06 (11/01)
Sample Date/Time:	11-13-01 — 9:34
Sampler ID:	Hector Munoz
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: CLI-MW 09 (S)
Date: ~~45-70~~ 11-19-01

WELL MEASURMENTS

Depth to Water : 57.95 ft
Screen Depth: 45-70 ft.
Depth to Bottom: _____ ft
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria	.5	*±0.1*	*±3 %*	*±1°C*	*± 10 %*	*None*	
8:14	~~7.15~~	7.15	1.95	19.5	2.97	999	
8:16	1	7.20	1.96	20.5	2.62	999	
8:18	2	7.21	1.95	22.1	2.54	780	
8:20	3	7.22	1.96	23.2	2.89	453	
8:22	4	7.19	1.97	23.2	3.04	297	
8:24	6	7.23	1.97	24.1	2.45	~~999~~ 413	
8:26	7	7.25	1.98	23.9	2.40	280	
8:28	8	7.22	1.99	23.6	1.35	151	
8:30	10	7.19	1.99	23.7	0.60	41	
8:32	12	7.18	1.99	23.7	0.58	937	

SAMPLING INFORMATION

Sample Number:	CLI-MW-09-(S) (11/01)
Sample Date/Time:	11-19-01 — 8:40
Sampler ID:	Hector Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: CL1-MW-12(MD)
Date: 12-14-01

WELL MEASURMENTS

Depth to Water: 67.78 ft
Depth to Bottom: _____ ft
Screen Depth: 140-150 ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
10:06	1 Gallon	7.22	1.28	21.3	0.30	33	ODOR/sheen
10:08	2.5	7.22	1.28	21.4	0.07	79	
10:10	3.0	7.20	1.28	21.6	0.01	31	
10:12	3.5	7.19	1.28	21.8	0.00	19	
10:14	4.0	7.19	1.28	21.9	-0.01	12	
10:16	4.5	7.19	1.28	21.8	-0.02	8	

SAMPLING INFORMATION

Sample Number:	CL1-MW-12(MD)
Sample Date/Time:	11-14-01 10:20
Sampler ID:	Hector Merino
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: CL2-MW-05
Date: 11/12/01

WELL MEASUREMENTS

Depth to Water: 40.67 ft
Screen Depth: 80.90 ft.
Depth to Bottom: _____ ft
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged ml	pH	Cond. ~~(us/ms)~~ mS/cm	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
0820	Start	—	—	—	—	—	
0823	500	7.24	0.609	20.5	4.44	~10	
0826	1000	7.13	0.796	20.4	3.75	~10	
0829	1500	7.11	0.843	20.7	3.55	~10	problems w/ meter will try recalib again pe
0832	3000	7.11	~~1.2~~ 1.19	20.8	2.73	~10	
0835	4000	7.11	1.15	20.9	2.69	~10	
0838	5000	7.11	1.13	21.0	2.90	~10	

SAMPLING INFORMATION

Sample Number:	CL2-MW-05
Sample Date/Time:	11/12/01 0845
Sampler ID:	PEM
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), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

GROUNDWATER MONITORING DATA FORM

PROJECT INFORMATION

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

Well ID: NASA-SW-3
Date: 11/13/01

WELL MEASURMENTS

Depth to Water :_____ft
Depth to Bottom:_____ ft
Screen Depth:_____ft.
Purging Method= Low Flow Pumps (Micro-Purge)
Flow Rate: ~300 - 500 ml/min

PURGE DATA

Time	Volume Purged	pH	Cond. (us/ms)	Temp. (C)	D. O. (ppm)	Turbidity (NTU)	Notes
Stabilization criteria		*±0.1*	*±3 %*	*±1 °C*	*± 10 %*	*None*	
—	Pumping		Well	Not	Purged	—	

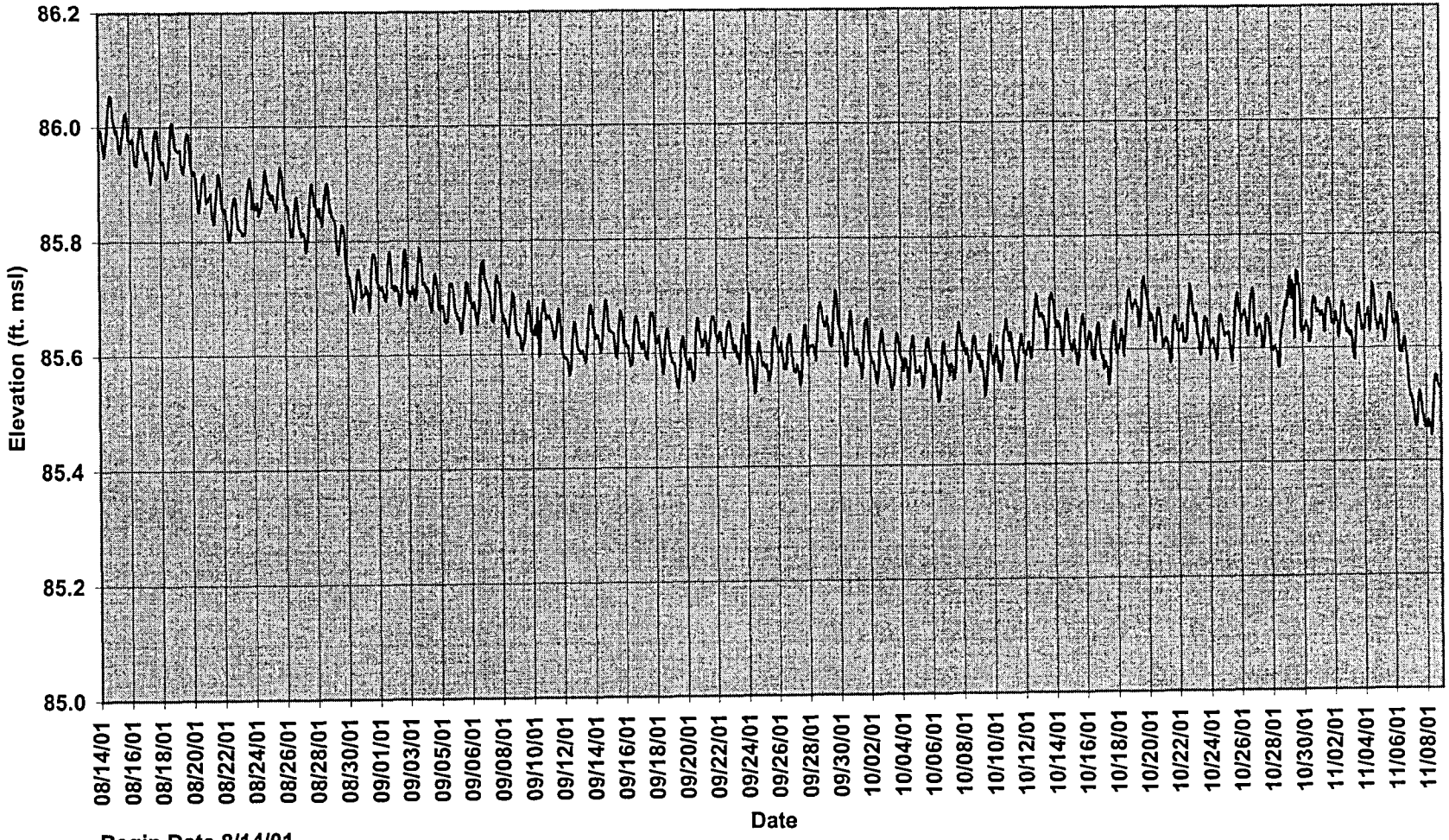
SAMPLING INFORMATION

Sample Number:	NASA-SW-3 (11/01)
Sample Date/Time:	11/13/01 845
Sampler ID:	RC
Weather Conditions:	☐ sun ☐ rain ☒ overcast Temp: ~65 °F
Sample Collection Method:	~~PUMP – Low Flow~~ Sample Tap
Volume Collected and Analyses	**EPA 8260** (3 VOA vials), **TPH-Gasoline & Jet Fuel** (2 VOA vials), **TPH-Diesel & Motor Oil** (2- 1 Liter Amber), **Anions, TDS, Alkalinity** (1-1L HDPE), Metals (1-500 ml HDPE w/ HNO3)

Comments: **Filter Metals through a 0.45um in-line filter prior to filling the sample container**

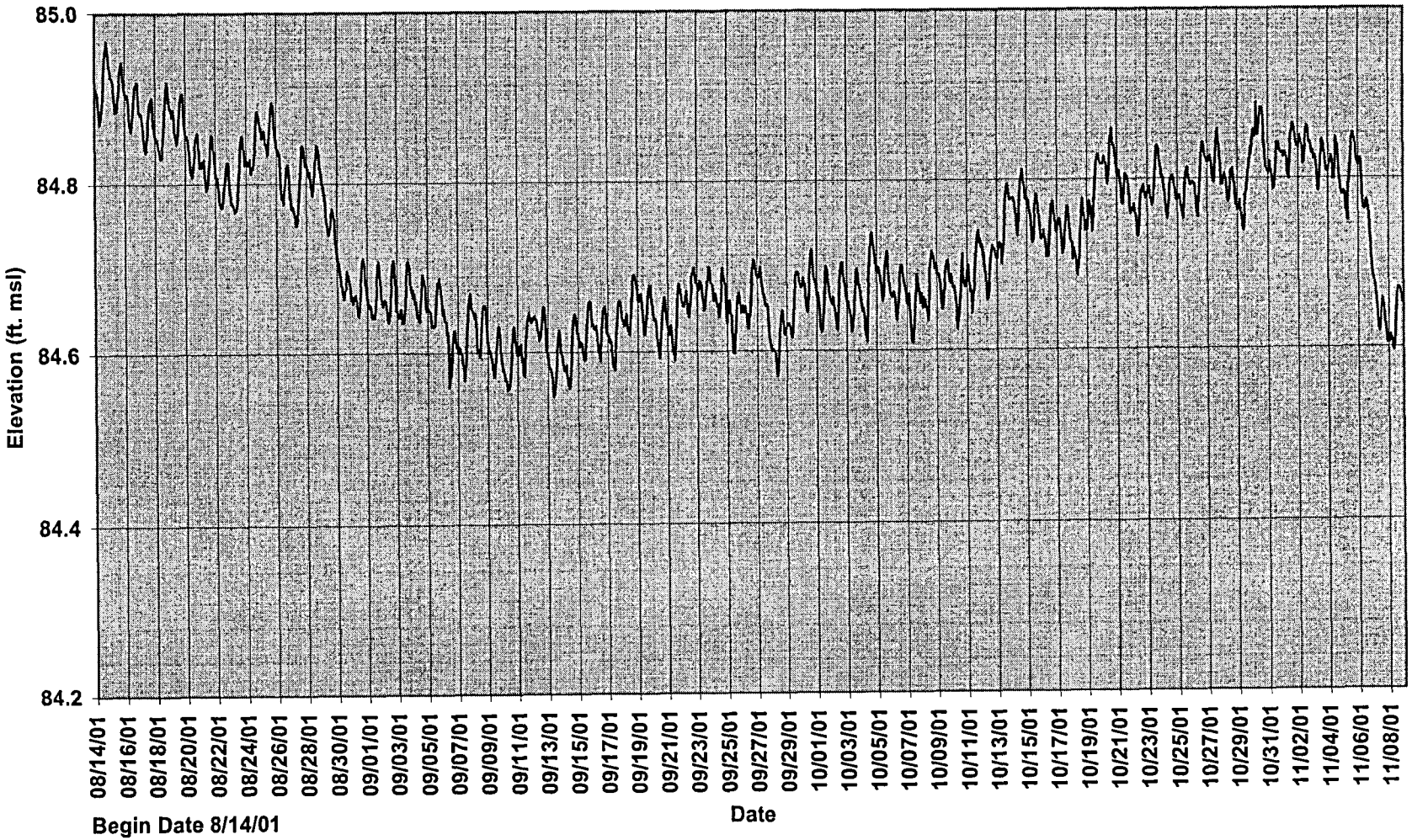
APPENDIX B
BASEWIDE WATER LEVEL MONITORING RESULTS

Fluctuation in Water Elevation for CL1-MW-10 S



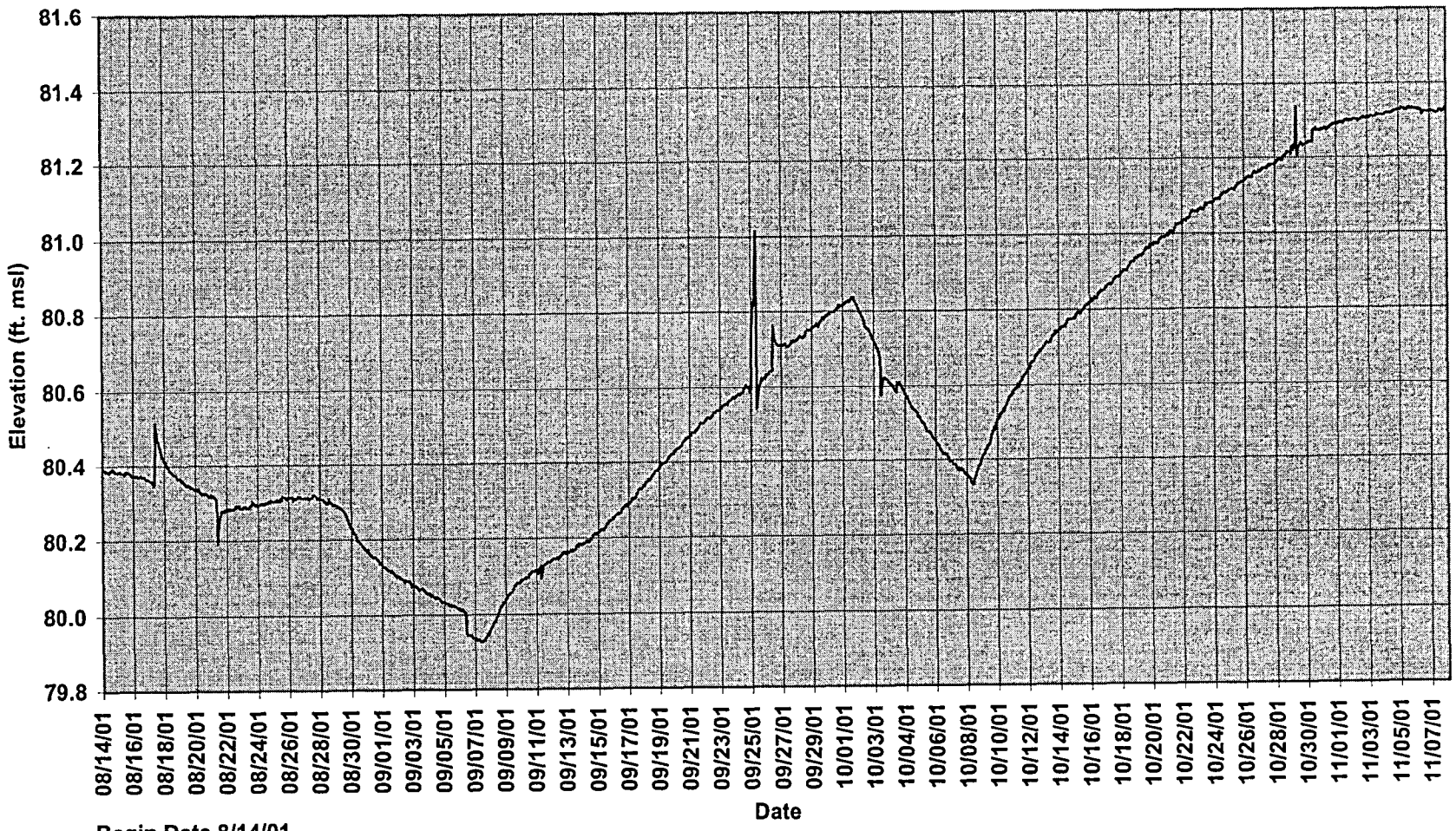
Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation for 117-MW-05 S



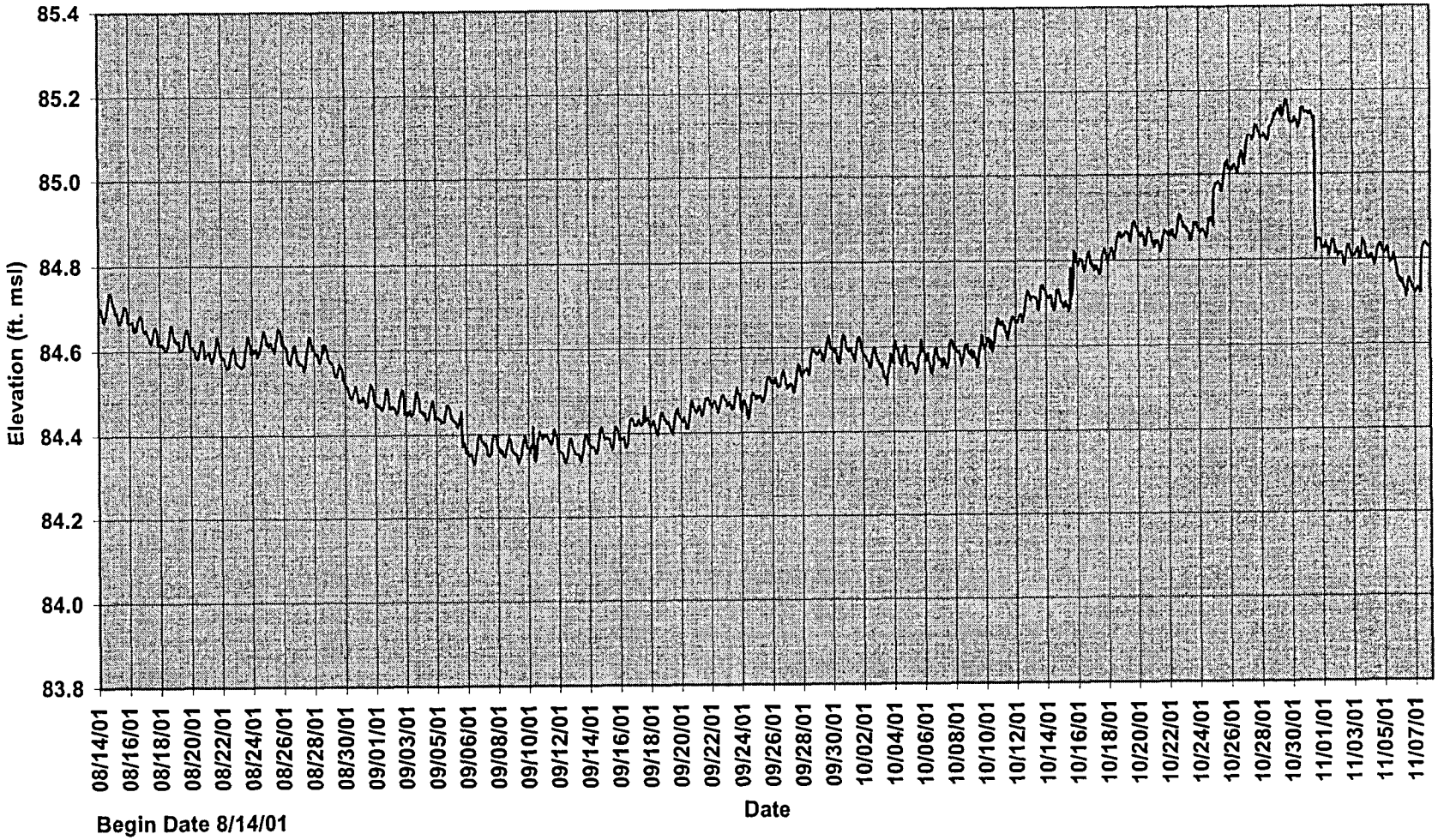
Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation at CL2-MP-03 B



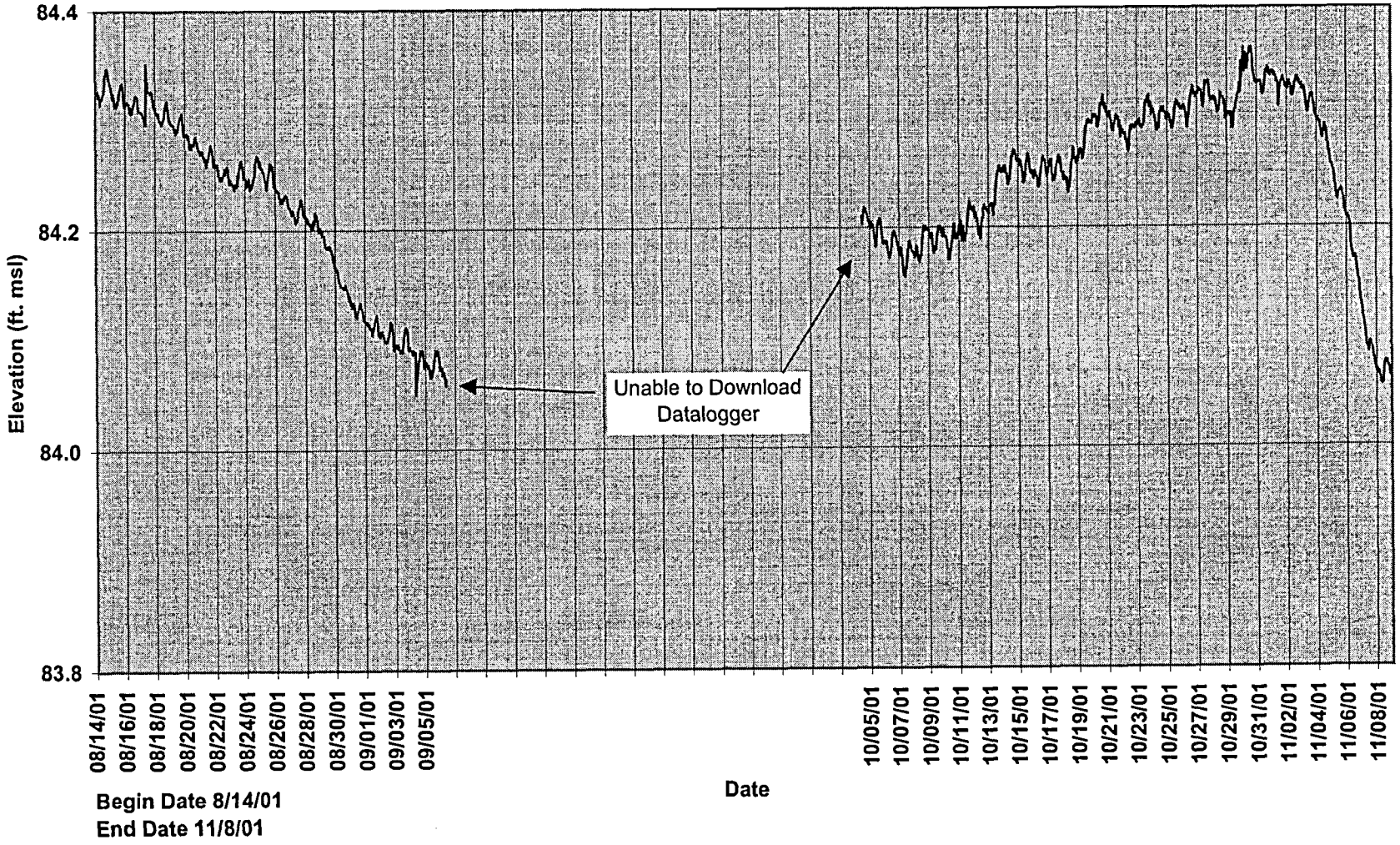
Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation at 11-MW-03 S



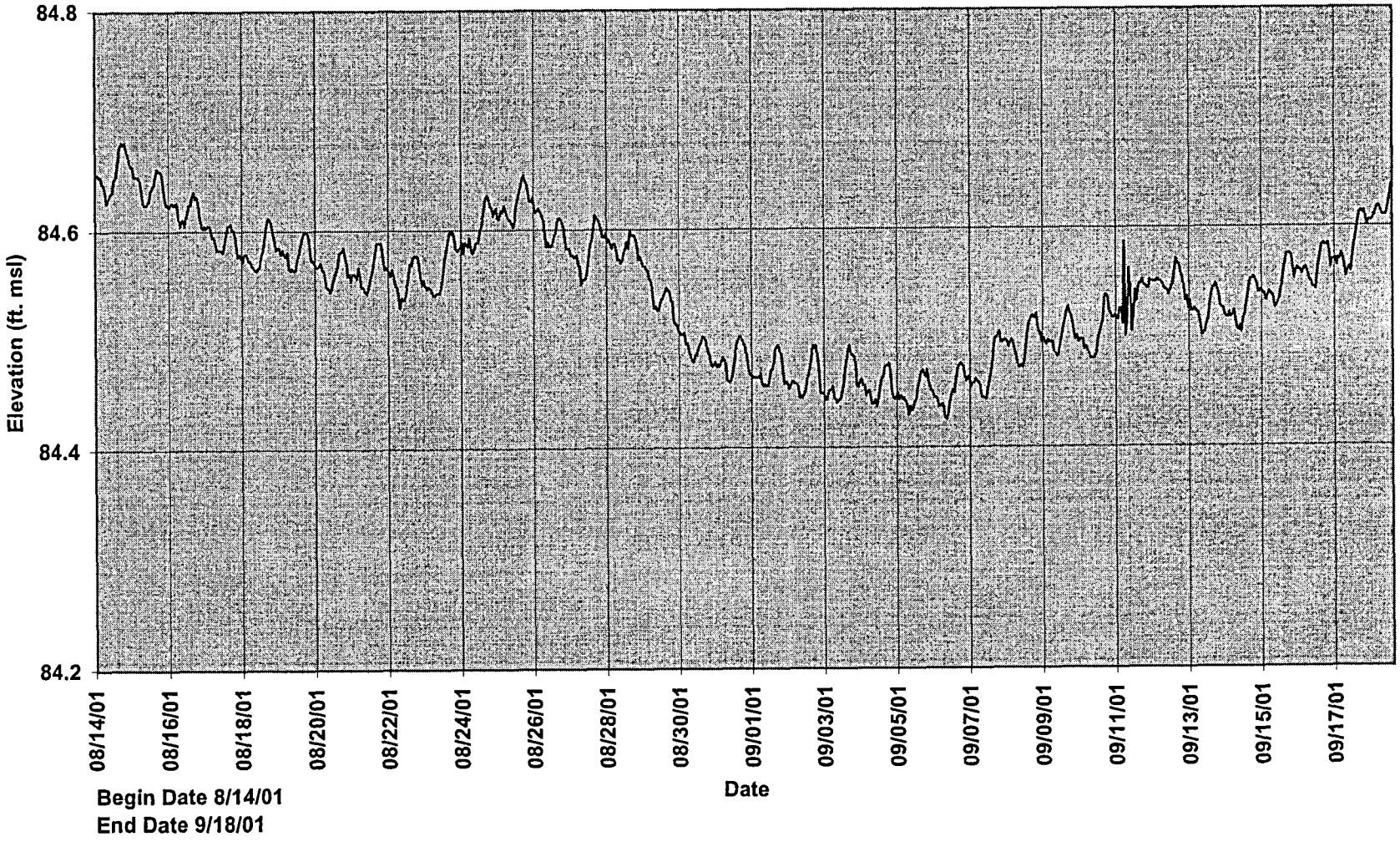
Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation at 109-MW-01 S

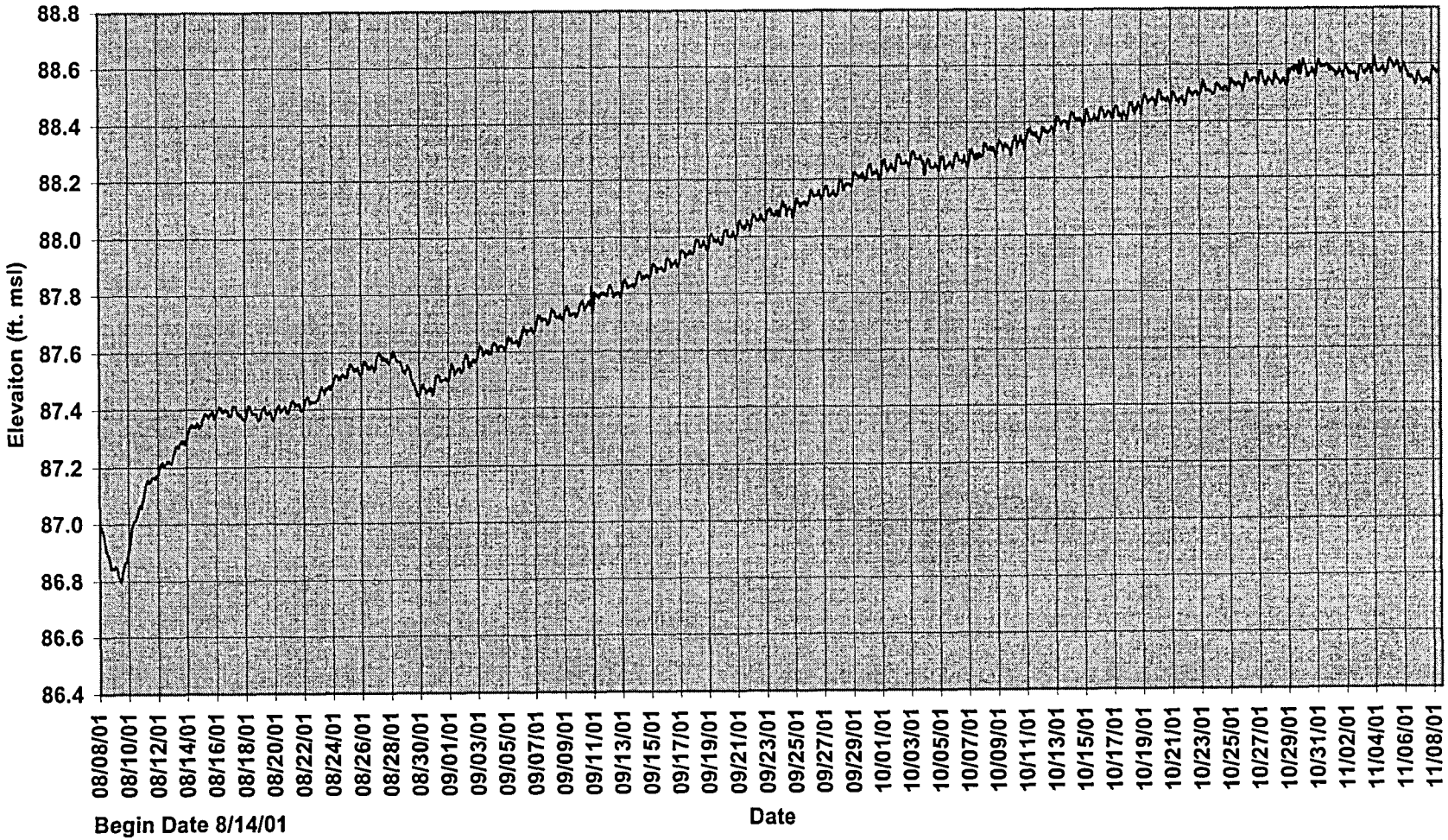


Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation at 11-MW-05 S

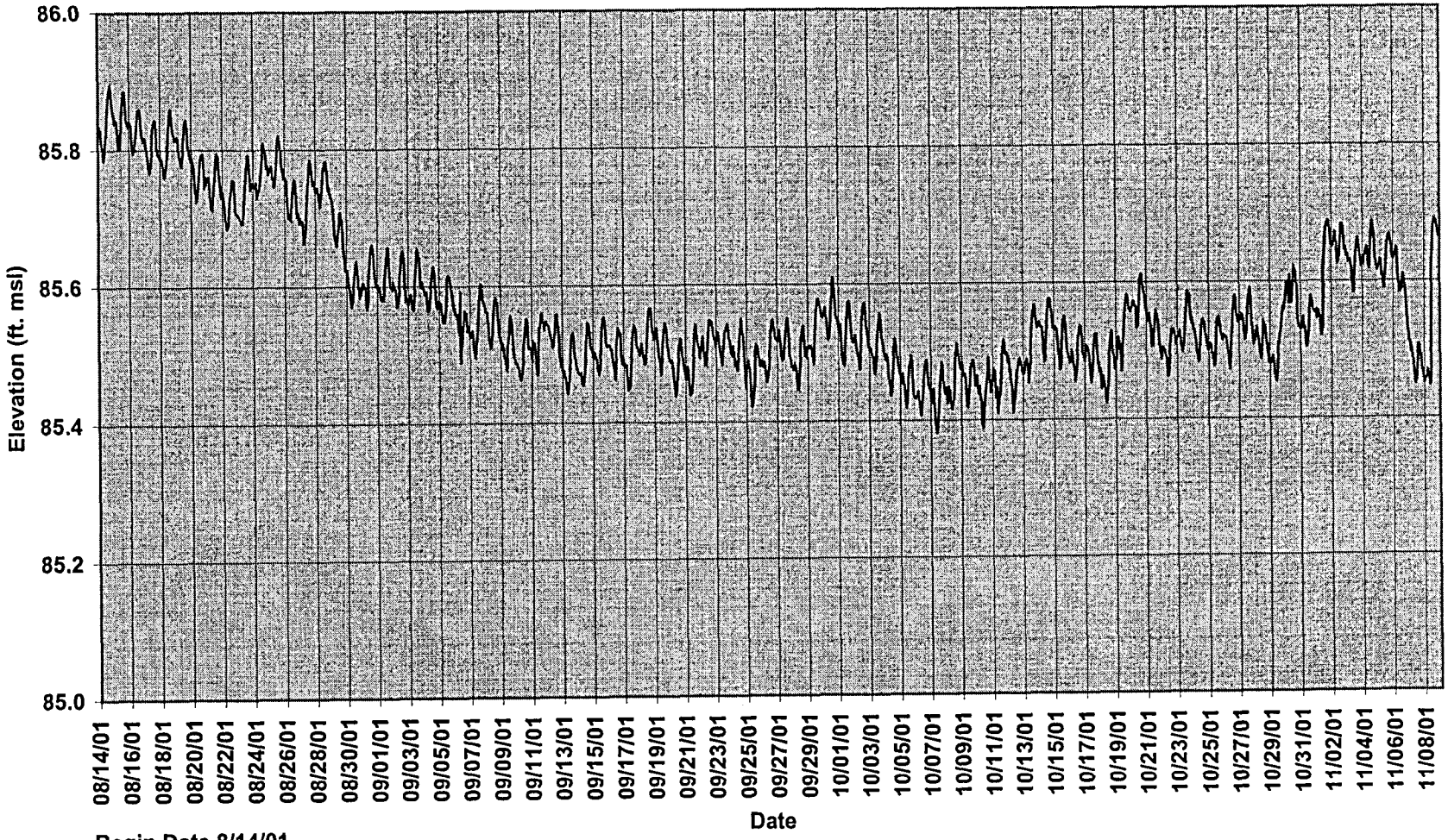


Fluctauation in Water Elevation at BG-MW-01 S



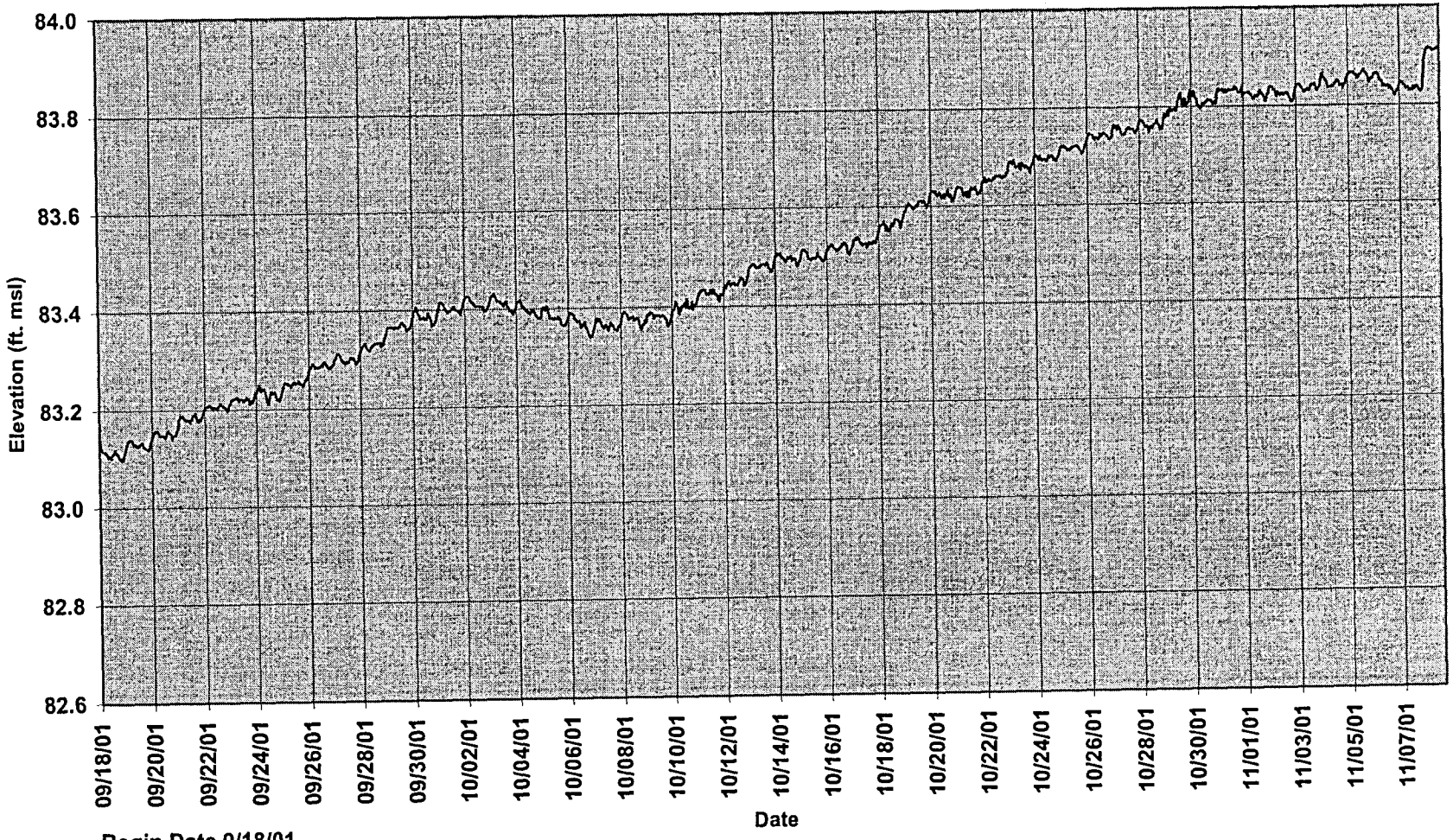
Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation at CL1-MW-09 S



Begin Date 8/14/01
End Date 11/8/01

Fluctuation in Water Elevation at BG-MW-03 S



Begin Date 9/18/01
End Date 11/8/01

APPENDIX C
LABORATORY ANALYTICAL RESULTS, CERTIFICATES OF ANALYSIS, AND CHAIN-OF-CUSTODY RECORDS

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		109-MW-01		11-MW-03		11-MW-04		117-MW-08		117-MW-09		117-MW-10S	
Date Collected		11/12/2001		11/12/2001		11/12/2001		11/13/2001		11/13/2001		11/14/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry													
ALKALINITY	mg/L	213		226		296		149		194		409	
CHLORIDE	mg/L	57		127		95.1		58.2		49.1		154	
NITRATE AS N	mg/L	9.9		14.6		10.1		11.1		1.6	U	1.4	
NITRATE/NITRITE	mg/L	0.5	U	0.75	U	0.5	U	0.5	U	2	U	1	U
PHOSPHATE	mg/L	1	U	1.5	U	1	U	1	U	4	U	2	U
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	794		892		815		716		1390		740	
SULFATE	mg/L	292		259		213		321		763		91.5	
Hexavalent Chromium (EPA 7196A)													
HEXAVALENT CHROMIUM	mg/L	0.02	U	0.02	U	0.02	U	0.0241		0.02	U	0.02	U
Metals (EPA 6010B/7000)													
ANTIMONY	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
ARSENIC	ug/L	5	U	5	U	5	U	2.2	J	5	U	5	U
BARIUM	ug/L	23.1		46.7		76.9		18.4		17.7		92.1	
BERYLLIUM	ug/L	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
CHROMIUM	ug/L	15.8		13.5		6.2		29.8		5.9		5	U
COBALT	ug/L	5	U	5	U	5	U	5	U	5	U	0.73	J
COPPER	ug/L	20.7		27.3		25.4		10.3		12.1		5.5	J
LEAD	ug/L	5	U	0.84	J	1.2	J	5	U	5	U	5	U
MERCURY	ug/L	0.5	U	0.17	J	0.5	U	0.17	J	0.18	J	0.089	J
MOLYBDENUM	ug/L	5	U	5.5	U	7.2	U	4.8	J	8.9		12	
NICKEL	ug/L	9.3		13.1		13.9		4	J	6.6		5	U
SELENIUM	ug/L	10.5		10	U	10	U	13.4		5.5	J	10	U
SILVER	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
THALLIUM	ug/L	10	U	10	UJ	10	UJ	10	U	10	U	10	U
VANADIUM	ug/L	10	U	10	U	3.9	J	9.2	J	0.64	J	0.82	J
ZINC	ug/L	179		36.4		72.4		154		154		471	
Petroleum Hydrocarbons (EPA 8015B)													
GASOLINE	mg/L	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.15	
JP-4	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DIESEL	mg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
MOTOR OIL	mg/L	0.1	U	0.08	J	0.1	J	0.1	U	0.1	U	0.1	U
Petroleum Hydrocarbons (EPA 8015B)													
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
1,1,1-TRICHLOROETHANE	ug/L	0.5	U	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	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
1,1-DICHLOROETHANE	ug/L	0.5	U	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	0.5	U
1,1-DICHLOROPROPENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	U
1,2,3-TRICHLOROBENZENE	ug/L	0.5	U	0.5	U	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	0.5	U

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		109-MW-01		11-MW-03		11-MW-04		117-MW-08		117-MW-09		117-MW-10S	
Date Collected		11/12/2001		11/12/2001		11/12/2001		11/13/2001		11/13/2001		11/14/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,2,4-TRICHLOROBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	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
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.5	U	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	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
1,2-DICHLOROETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	155	
1,2-DICHLOROPROPANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.8	
1,3,5-TRIMETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-DICHLOROBENZENE	ug/L	0.5	U	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	0.5	U
1,4-DICHLOROBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
2-BUTANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
2-HEXANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
ACETONE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
BENZENE	ug/L	0.5	U	0.5	U	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	0.5	U
BROMOCHLOROMETHANE	ug/L	0.5	U	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	0.5	U
BROMOFORM	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BROMOMETHANE	ug/L	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ
CARBON DISULFIDE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
CARBON TETRACHLORIDE	ug/L	0.5	U	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	0.5	U
CHLOROETHANE	ug/L	0.5	U	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	0.5	U
CHLOROMETHANE	ug/L	0.5	U	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	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
CUMENE	ug/L	0.5	U	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	0.5	U
DIBROMOMETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	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	0.5	UJ
ETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
HEXACHLOROBUTADIENE	ug/L	0.56	U	0.56	U	0.56	U	0.56	UJ	0.56	UJ	0.56	UJ
METHYL ISOBUTYL KETONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	ug/L	2	U	2	U	2	U	2	U	2	U	2	U
MTBE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
N-PROPYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
NAPHTHALENE	ug/L	0.5	U	0.5	U	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	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
P-CYMENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
SEC-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		109-MW-01		11-MW-03		11-MW-04		117-MW-08		117-MW-09		117-MW-10S	
Date Collected		11/12/2001		11/12/2001		11/12/2001		11/13/2001		11/13/2001		11/14/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SEC-DICHLOROPROPANE	ug/L	0.5	U	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	0.5	U
TERT-BUTYL ALCOHOL	ug/L	20	UJ*	20	UJ	20	UJ	20	UJ	20	UJ	160	J
TERT-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
TETRACHLOROETHENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
TOLUENE	ug/L	0.5	U	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	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
TRICHLOROETHENE	ug/L	0.5	U	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	UJ	0.5	UJ	0.5	UJ
VINYL CHLORIDE	ug/L	0.5	U	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	1	U

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

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

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

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		17-MW-03		17-MW-06		17-MW-08		17-MW-09		17-MW-11		17-MW-13	
Date Collected		11/14/2001		11/12/2001		11/12/2001		11/12/2001		11/13/2001		11/14/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry													
ALKALINITY	mg/L	164		42.6		104		130		194		243	
CHLORIDE	mg/L	43.1		0.86		52.5		42.1		70.7		124	
NITRATE AS N	mg/L	25		1.2		31.2		24.3		7.8		5.2	
NITRATE/NITRITE	mg/L	0.5	U	0.12		1.3	U	1.3	U	0.5	U	1	U
PHOSPHATE	mg/L	1	U	0.2		2.5	U	2.5	U	1	U	2	U
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	793		97		1140		1050		740		1340	
SULFATE	mg/L	287		5.4		544		481		302		566	
Hexavalent Chromium (EPA 7196A)													
HEXAVALENT CHROMIUM	mg/L	0.04		0.02		0.0063	J	0.0076	J	0.02	U	0.02	
Metals (EPA 6010B/7000)													
ANTIMONY	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
ARSENIC	ug/L	5	U	5	U	5	U	5	U	5	U	5	U
BARIUM	ug/L	25		13.2		15.6		19.9		41.4		23.3	
BERYLLIUM	ug/L	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
CHROMIUM	ug/L	37.3		4.5	J	26.5		21.7		3.3	J	5	U
COBALT	ug/L	5	U	5	U	5	U	5	U	5	U	0.4	J
COPPER	ug/L	7.3	J	43.2		28.5		14.7		4.4	J	3.7	J
LEAD	ug/L	5	U	1.4	J	5	U	5	U	5	U	5	U
MERCURY	ug/L	0.5	U	0.5	U	0.079	J	0.12	J	0.14	J	0.12	J
MOLYBDENUM	ug/L	5	U	5	U	5	U	5	U	7.1		8.9	
NICKEL	ug/L	5	U	13.6		16.6		8.6		3.2	J	5	U
SELENIUM	ug/L	12.2	U	10	U	25.1		21.1		11.2		10	U
SILVER	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
THALLIUM	ug/L	10	U	10	UJ	10	UJ	10	UJ	10	U	10	U
VANADIUM	ug/L	2	J	10	U	10	U	10	U	2.2	J	1.3	J
ZINC	ug/L	249		42.6		156		76.2		430		434	
Petroleum Hydrocarbons (EPA 8015B)													
GASOLINE	mg/L	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.27	
JP-4	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DIESEL	mg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
MOTOR OIL	mg/L	0.1	U	0.47		0.06	J	0.1	J	0.1	U	0.1	U
Petroleum Hydrocarbons (EPA 8015B)													
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
1,1,1-TRICHLOROETHANE	ug/L	0.5	U	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	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
1,1-DICHLOROETHANE	ug/L	0.5	U	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	0.5	U
1,1-DICHLOROPROPENE	ug/L	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U
1,2,3-TRICHLOROBENZENE	ug/L	0.5	U	0.5	U	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	0.5	U

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		17-MW-03		17-MW-06		17-MW-08		17-MW-09		17-MW-11		17-MW-13	
Date Collected		11/14/2001		11/12/2001		11/12/2001		11/12/2001		11/13/2001		11/14/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,2,4-TRICHLOROBENZENE	ug/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	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
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.5	U	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	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
1,2-DICHLOROETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5.3	
1,2-DICHLOROPROPANE	ug/L	0.5	U	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	0.3	J
1,3-DICHLOROBENZENE	ug/L	0.5	U	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	0.5	U
1,4-DICHLOROBENZENE	ug/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
2-BUTANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
2-HEXANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
ACETONE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	67	J
BENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	4.2	
BROMOBENZENE	ug/L	0.5	U	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	0.5	U
BROMODICHLOROMETHANE	ug/L	0.5	U	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	0.5	U
BROMOMETHANE	ug/L	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ
CARBON DISULFIDE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	U
CARBON TETRACHLORIDE	ug/L	118		0.5	U	1.4		1.9		2.3		0.5	U
CHLOROBENZENE	ug/L	0.5	U	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	0.5	U
CHLOROFORM	ug/L	7.9		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	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
CIS-1,3-DICHLOROPROPENE	ug/L	0.5	U	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	126	
DIBROMOCHLOROMETHANE	ug/L	0.5	U	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	0.5	U
DICHLORODIFLUOROMETHANE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
ETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.3	J
HEXACHLOROBUTADIENE	ug/L	0.56	UJ	0.56	U	0.56	U	0.56	U	0.56	UJ	0.56	UJ
METHYL ISOBUTYL KETONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	ug/L	2	U	2	U	2	U	2	U	2	U	4	
MTBE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
N-PROPYLBENZENE	ug/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	2.2	J
NAPHTHALENE	ug/L	0.5	U	0.5	U	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	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
P-CYMENE	ug/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
SEC-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.6	J

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		17-MW-03		17-MW-06		17-MW-08		17-MW-09		17-MW-11		17-MW-13	
Date Collected		11/14/2001		11/12/2001		11/12/2001		11/12/2001		11/13/2001		11/14/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SEC-DICHLOROPROPANE	ug/L	0.5	U	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	0.5	U
TERT-BUTYL ALCOHOL	ug/L	20	UJ	20	UJ	20	UJ	20	UJ	20	UJ	260	J
TERT-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	2.1	
TETRACHLOROETHENE	ug/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
TOLUENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.4	J
TRANS-1,2-DICHLOROETHENE	ug/L	0.5	U	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	0.5	U
TRICHLOROETHENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
TRICHLOROFLUOROMETHANE	ug/L	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	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
XYLENES(TOTAL)	ug/L	1	U	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 associated numerical value is an estimate.

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

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		17-MW-15		17-MW-18		17-MW-24MS		17-MW-24S		17-MW-25MS		17-MW-25S	
Date Collected		11/13/2001		11/13/2001		11/12/2001		11/12/2001		11/13/2001		11/12/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry													
ALKALINITY	mg/L	90.5		158		156		347		219		285	
CHLORIDE	mg/L	51.7		37.7		119		112		90		167	
NITRATE AS N	mg/L	1.6	U	12.3		15.6		16		10.8		9.6	
NITRATE/NITRITE	mg/L	2	U	0.63	U	1	U	1	U	1	U	1	U
PHOSPHATE	mg/L	4	U	1.3	U	2	U	2	U	2	U	2	U
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	1360		753		810		903		732		1120	
SULFATE	mg/L	879		327		260		229		205		504	
Hexavalent Chromium (EPA 7196A)													
HEXAVALENT CHROMIUM	mg/L	0.02		0.0241		0.02		0.02		0.02	U	0.02	
Metals (EPA 6010B/7000)													
ANTIMONY	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
ARSENIC	ug/L	5	U	5	U	5	U	5	U	5	U	5	U
BARIUM	ug/L	18.6		14.8		33.9		25.6		17.9		23.4	
BERYLLIUM	ug/L	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
CHROMIUM	ug/L	4	J	30.1		6.6		9.1		5.8		10.2	
COBALT	ug/L	5	U	5	U	5	U	5	U	5	U	5	U
COPPER	ug/L	3.4	J	2.6	J	19.3		51.2		9.4	J	39.7	
LEAD	ug/L	5	U	5	U	0.92	J	5	U	5	U	2	J
MERCURY	ug/L	0.15	J	0.5	U	0.5	U	0.12	J	0.12	J	0.14	J
MOLYBDENUM	ug/L	5	U	5	U	6.9	U	5	U	5	U	5	U
NICKEL	ug/L	5	U	2.2	J	15.9		8.7		5	U	10.7	
SELENIUM	ug/L	10	U	13.3		10	U	10	U	10.1		12.9	
SILVER	ug/L	10	U	1.7	J	10	U	10	U	10	U	10	U
THALLIUM	ug/L	10	U	10	U	10	UJ	10	UJ	10	U	10.6	UJ
VANADIUM	ug/L	10	U	7.2	J	10	U	10	U	2	J	4.5	J
ZINC	ug/L	67.8		64.9		61.3		215		129		185	
Petroleum Hydrocarbons (EPA 8015B)													
GASOLINE	mg/L	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.08	U	0.05	UJ
JP-4	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DIESEL	mg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
MOTOR OIL	mg/L	0.1	U	0.1	U	0.06	J	0.1		0.1	U	0.1	U
Petroleum Hydrocarbons (EPA 8015B)													
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
1,1,1-TRICHLOROETHANE	ug/L	0.5	U	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	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
1,1-DICHLOROETHANE	ug/L	0.5	U	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	0.5	U
1,1-DICHLOROPROPENE	ug/L	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	U	0.5	UJ
1,2,3-TRICHLOROBENZENE	ug/L	0.5	U	0.5	U	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	0.5	U

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		17-MW-15		17-MW-18		17-MW-24MS		17-MW-24S		17-MW-25MS		17-MW-25S	
Date Collected		11/13/2001		11/13/2001		11/12/2001		11/12/2001		11/13/2001		11/12/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,2,4-TRICHLOROBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	UJ	0.5	U
1,2,4-TRIMETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.5	U	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	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
1,2-DICHLOROETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	1		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
1,3,5-TRIMETHYLBENZENE	ug/L	0.5	U	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	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
1,4-DICHLOROBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	UJ	0.5	U
2-BUTANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
2-HEXANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
ACETONE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
BENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	13.6		0.5	U
BROMOBENZENE	ug/L	0.5	U	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	0.5	U
BROMODICHLOROMETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.6	
BROMOFORM	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BROMOMETHANE	ug/L	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ
CARBON DISULFIDE	ug/L	0.7	J	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
CARBON TETRACHLORIDE	ug/L	0.5	U	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	0.5	U
CHLOROETHANE	ug/L	0.5	U	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	J	0.5	
CHLOROMETHANE	ug/L	0.5	U	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	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
CUMENE	ug/L	0.5	U	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	0.8	
DIBROMOMETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	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	0.5	UJ
ETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
HEXACHLOROBUTADIENE	ug/L	0.56	UJ	0.56	UJ	0.56	U	0.56	U	0.56	UJ	0.56	U
METHYL ISOBUTYL KETONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	ug/L	2	U	2	U	2	U	2	U	2	U	2	U
MTBE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U
N-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
N-PROPYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	UJ	0.5	U
NAPHTHALENE	ug/L	0.5	U	0.5	U	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	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
P-CYMENE	ug/L	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	UJ	0.5	U
SEC-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		17-MW-15		17-MW-18		17-MW-24MS		17-MW-24S		17-MW-25MS		17-MW-25S	
Date Collected		11/13/2001		11/13/2001		11/12/2001		11/12/2001		11/13/2001		11/12/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SEC-DICHLOROPROPANE	ug/L	0.5	U	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	0.5	U
TERT-BUTYL ALCOHOL	ug/L	20	UJ	20	UJ	20	UJ	20	UJ	36	J	20	UJ
TERT-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
TETRACHLOROETHENE	ug/L	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	UJ	0.5	U
TOLUENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.4	J	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
TRANS-1,3-DICHLOROPROPENE	ug/L	0.5	U	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	0.5	U
TRICHLOROFLUOROMETHANE	ug/L	0.5	UJ	0.5	UJ	0.5	U	0.5	U	0.5	UJ	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
XYLENES(TOTAL)	ug/L	1	U	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 associated numerical value is an estimate.

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

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		CL1-MW-04		CL1-MW-05		CL1-MW-06		CL1-MW-09S		CL1-MW-12MD		CL2-MW-05		NASA-SW-3	
Date Collected		11/13/2001		11/12/2001		11/13/2001		11/14/2001		11/14/2001		11/12/2001		11/13/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chemistry															
ALKALINITY	mg/L	290		198		234		294		279		345		128	
CHLORIDE	mg/L	68.5		18.3		88.4		122		61		116		89.4	
NITRATE AS N	mg/L	4		14.7		25		12.8		0.74		9.4		14.3	
NITRATE/NITRITE	mg/L	0.5	U	0.4	U	2	U	4.7		0.5	U	1	U	1	U
PHOSPHATE	mg/L	1	U	0.8	U	4	U	2	U	1.3		2	U	2	U
SOLIDS, TOTAL DISSOLVED (TDS)	mg/L	835		700		1450		1440		842		842		1090	
SULFATE	mg/L	295		248		747		643		316		156		751	
Hexavalent Chromium (EPA 7196A)															
HEXAVALENT CHROMIUM	mg/L	0.02	U	0.02	U	0.0081	J	0.02	U	0.02	U	0.023		0.02	U
Metals (EPA 6010B/7000)															
ANTIMONY	ug/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
ARSENIC	ug/L	5	U	5	U	5	U	5	U	8.9		5	U	5	U
BARIUM	ug/L	26.9		20.9		17.9		12.8		56.7		37.3		32.7	
BERYLLIUM	ug/L	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
CHROMIUM	ug/L	5.9		27.2		27.6		5	U	5	U	21.2		10.9	
COBALT	ug/L	5	U	5	U	5	U	5	U	5	U	5	U	5	U
COPPER	ug/L	3.1	J	10	U	4.6	J	3.6	J	3.3	J	36.8		7.1	J
LEAD	ug/L	5	U	5	U	5	U	1.1	J	5	U	5	U	5	U
MERCURY	ug/L	0.16	J	0.11	J	0.5	U	0.16	J	0.087	J	0.13	J	0.5	U
MOLYBDENUM	ug/L	5	U	5	U	6.7		5.4	U	5	U	5	U	5	U
NICKEL	ug/L	5	U	5	U	3.8	J	5	U	5	U	25.5		5	U
SELENIUM	ug/L	7.4	J	10	U	60.5		16.5		10	U	10	U	40.9	
SILVER	ug/L	10	U	10	U	1	J	10	U	10	U	10	U	0.93	J
THALLIUM	ug/L	10	U	10	UJ	10	U	10	U	10	U	10	UJ	10	U
VANADIUM	ug/L	2.2	J	10	U	2.1	J	1.9	J	10	U	10	U	3.8	J
ZINC	ug/L	83.7		14		598		95.4		24		257		112	
Petroleum Hydrocarbons (EPA 8015B)															
GASOLINE	mg/L	0.05	UJ	0.05	UJ	0.05	UJ	0.37		23.6		0.05	UJ	0.05	UJ
JP-4	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.5	U	0.05	U	0.05	U
DIESEL	mg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
MOTOR OIL	mg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.07	J	0.1	U
Petroleum Hydrocarbons (EPA 8015B)															
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	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	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	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	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	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	0.5	U
1,1-DICHLOROPROPENE	ug/L	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
1,2,3-TRICHLOROBENZENE	ug/L	0.5	U	0.5	U	0.5	U	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	0.5	U	0.5	U

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		CL1-MW-04		CL1-MW-05		CL1-MW-06		CL1-MW-09S		CL1-MW-12MD		CL2-MW-05		NASA-SW-3	
Date Collected		11/13/2001		11/12/2001		11/13/2001		11/14/2001		11/14/2001		11/12/2001		11/13/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,2,4-TRICHLOROBENZENE	ug/L	0.5	UJ	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	UJ
1,2,4-TRIMETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	11.2		0.5	U	0.5	U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.5	U	0.5	U	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	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	0.5	U	0.5	U
1,2-DICHLOROETHANE	ug/L	0.5	U	0.5	U	0.5	U	10.3		132		0.5	U	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	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	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	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	0.5	U
1,4-DICHLOROBENZENE	ug/L	0.5	UJ	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	UJ
2-BUTANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-HEXANONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
ACETONE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
BENZENE	ug/L	0.5	U	0.5	U	0.5	U	197		12600		0.5	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	0.5	U
BROMOCHLOROMETHANE	ug/L	0.5	U	0.5	U	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	0.5	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	0.5	U
BROMOMETHANE	ug/L	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ	0.63	UJ
CARBON DISULFIDE	ug/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
CARBON TETRACHLORIDE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	2.5		0.5	U	0.5	U
CHLOROBENZENE	ug/L	0.5	U	0.5	U	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	0.5	U	0.5	U
CHLOROFORM	ug/L	0.5	U	0.5	U	0.5	U	18.8		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	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	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	0.5	U	0.5	U
CUMENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	1250		0.5	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	0.5	U
DIBROMOMETHANE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	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	0.5	UJ	0.5	UJ
ETHYLBENZENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	4.5		0.5	U	0.5	U
HEXACHLOROBUTADIENE	ug/L	0.56	UJ	0.56	U	0.56	UJ	0.56	UJ	0.56	UJ	0.56	U	0.56	UJ
METHYL ISOBUTYL KETONE	ug/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	ug/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U
MTBE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
N-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
N-PROPYLBENZENE	ug/L	0.5	UJ	0.5	U	0.5	UJ	0.5	UJ	7.5	J	0.5	U	0.5	UJ
NAPHTHALENE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	3.2		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	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	0.5	U	0.5	U
P-CYMENE	ug/L	0.5	UJ	0.5	U	0.5	UJ	0.5	UJ	0.5	J	0.5	U	0.5	UJ
SEC-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.3	J	3.7	J	0.5	UJ	0.5	UJ

Table C-1: Summary of Analytical Results, Quarterly Groundwater Sampling, November 2001, NASA Crows Landing

Sample ID		CL1-MW-04		CL1-MW-05		CL1-MW-06		CL1-MW-09S		CL1-MW-12MD		CL2-MW-05		NASA-SW-3	
Date Collected		11/13/2001		11/12/2001		11/13/2001		11/14/2001		11/14/2001		11/12/2001		11/13/2001	
Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SEC-DICHLOROPROPANE	ug/L	0.5	U	0.5	U	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	0.5	U	0.5	U
TERT-BUTYL ALCOHOL	ug/L	20	UJ	20	UJ	20	UJ	48	J	20	UJ	20	UJ	20	UJ
TERT-BUTYLBENZENE	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	4.1	J	0.5	UJ	0.5	UJ
TETRACHLOROETHENE	ug/L	0.5	UJ	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	UJ
TOLUENE	ug/L	0.5	U	0.5	U	0.5	U	0.4	J	2.5		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	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	0.5	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	0.5	U
TRICHLOROFLUOROMETHANE	ug/L	0.5	UJ	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	UJ
VINYL CHLORIDE	ug/L	0.5	U	0.5	U	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	6.5		1	U	1	U

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

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

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

Table C-2: Field Duplicate Precision, Crows Landing Groundwater, November 2001

Sample ID	Duplicate ID	Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Units	RPD	Control Limits
17-MW-08	CL-99-17	Alkalinity	104000		113000		UG/L	8	30
17-MW-08	CL-99-17	Chloride	52500		52000		UG/L	1	30
17-MW-08	CL-99-17	Nitrate As N	31200		31700		UG/L	2	30
17-MW-08	CL-99-17	Nitrite As N	1300	U	1000	U	UG/L	NC	30
17-MW-08	CL-99-17	Phosphorus, Orthophosphate	2500	U	2000	U	UG/L	NC	30
17-MW-08	CL-99-17	Solids, Total Dissolved	1140000		1020000		UG/L	11	30
17-MW-08	CL-99-17	Sulfate	544000		556000		UG/L	2	30
17-MW-08	CL-99-17	Antimony	10	U	10	U	UG/L	NC	30
17-MW-08	CL-99-17	Arsenic	5	U	5	U	UG/L	NC	30
17-MW-08	CL-99-17	Barium	15.6		14.7		UG/L	6	30
17-MW-08	CL-99-17	Beryllium	2	U	2	U	UG/L	NC	30
17-MW-08	CL-99-17	Cadmium	2	U	2	U	UG/L	NC	30
17-MW-08	CL-99-17	Chromium	26.5		26		UG/L	2	30
17-MW-08	CL-99-17	Cobalt	5	U	5	U	UG/L	NC	30
17-MW-08	CL-99-17	Copper	28.5		27.4		UG/L	4	30
17-MW-08	CL-99-17	Hexavalent Chromium	6.3	J	15	J	UG/L	* 82	30
17-MW-08	CL-99-17	Lead	5	U	5	U	UG/L	NC	30
17-MW-08	CL-99-17	Mercury	0.079	J	0.11	J	UG/L	* 33	30
17-MW-08	CL-99-17	Molybdenum	5	U	5	U	UG/L	NC	30
17-MW-08	CL-99-17	Nickel	16.6		15.5		UG/L	7	30
17-MW-08	CL-99-17	Selenium	25.1		28		UG/L	11	30
17-MW-08	CL-99-17	Silver	10	U	10	U	UG/L	NC	30
17-MW-08	CL-99-17	Thallium	10	UJ	10	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Vanadium	10	U	10	U	UG/L	NC	30
17-MW-08	CL-99-17	Zinc	156		155		UG/L	1	30
17-MW-08	CL-99-17	Diesel Range Organics	100	U	100	U	UG/L	NC	30
17-MW-08	CL-99-17	Gasoline Range Organics	50	UJ	50	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Jp-4	50	U	50	U	UG/L	NC	30
17-MW-08	CL-99-17	Motor Oil Range Organics	60	J	70	J	UG/L	15	30
17-MW-08	CL-99-17	1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,1,1-Trichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,1,2-Trichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,1-Dichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,1-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,1-Dichloropropene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-08	CL-99-17	1,2,3-Trichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2,3-Trichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2,4-Trichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2,4-Trimethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2-Dibromo-3-Chloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2-Dibromoethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2-Dichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,2-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,3,5-Trimethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,3-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,3-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	1,4-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	2,2-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	2-Butanone (Mek)	10	U	10	U	UG/L	NC	30
17-MW-08	CL-99-17	2-Chlorotoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	2-Hexanone	10	U	10	U	UG/L	NC	30
17-MW-08	CL-99-17	4-Chlorotoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	4-Methyl-2-Pentanone (Mibk)	10	U	10	U	UG/L	NC	30
17-MW-08	CL-99-17	Acetone	10	UJ	10	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Benzene	0.5	U	0.5	U	UG/L	NC	30

Table C-2: Field Duplicate Precision, Crows Landing Groundwater, November 2001

Sample ID	Duplicate ID	Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Units	RPD	Control Limits
17-MW-08	CL-99-17	Bromobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Bromochloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Bromodichloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Bromoform	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Bromomethane	0.63	UJ	0.63	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Carbon Disulfide	10	UJ	10	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Carbon Tetrachloride	1.4		1.3		UG/L	7	30
17-MW-08	CL-99-17	Chlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Chloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Chloroform	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Chloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Cis-1,2-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Cis-1,3-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Dibromochloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Dibromomethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Dichlorodifluoromethane	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Ethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Hexachlorobutadiene	0.56	U	0.56	U	UG/L	NC	30
17-MW-08	CL-99-17	Isopropylbenzene (Cumene)	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Methyl-T-Bytyl Ether	1	U	1	U	UG/L	NC	30
17-MW-08	CL-99-17	Methylene Chloride	2	U	2	U	UG/L	NC	30
17-MW-08	CL-99-17	N-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-08	CL-99-17	N-Propylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Naphthalene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	P-Isopropyltoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Sec-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Styrene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	T-Butyl Alcohol	20	UJ	20	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Tert-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-08	CL-99-17	Tetrachloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Toluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Trans-1,2-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Trans-1,3-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Trichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Trichlorofluoromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Vinyl Chloride	0.5	U	0.5	U	UG/L	NC	30
17-MW-08	CL-99-17	Xylene (Total)	1	U	1	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Alkalinity	219000		213000		UG/L	3	30
17-MW-25MS	CL-99-18	Chloride	90000		92800		UG/L	3	30
17-MW-25MS	CL-99-18	Nitrate (No3-) As N	10800		11000		UG/L	2	30
17-MW-25MS	CL-99-18	Nitrite (No2-) As N	1000	U	1000	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Phosphorus, Orthophosphate	2000	U	2000	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Solids, Total Dissolved (Tds)	732000		704000		UG/L	4	30
17-MW-25MS	CL-99-18	Sulfate	205000		209000		UG/L	2	30
17-MW-25MS	CL-99-18	Antimony	10	U	10	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Arsenic	5	U	5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Barium	17.9		16.9		UG/L	6	30
17-MW-25MS	CL-99-18	Beryllium	2	U	2	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Cadmium	2	U	2	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Chromium	5.8		5.9		UG/L	2	30
17-MW-25MS	CL-99-18	Cobalt	5	U	5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Copper	9.4	J	9	J	UG/L	4	30
17-MW-25MS	CL-99-18	Hexavalent Chromium	20	U	20	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Lead	5	U	5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Mercury	0.12	J	0.13	J	UG/L	8	30
17-MW-25MS	CL-99-18	Molybdenum	5	U	5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Nickel	5	U	14.7		UG/L	NC	30

Table C-2: Field Duplicate Precision, Crows Landing Groundwater, November 2001

Sample ID	Duplicate ID	Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Units	RPD	Control Limits
17-MW-25MS	CL-99-18	Selenium	10.1		10.2		UG/L	1	30
17-MW-25MS	CL-99-18	Silver	10	U	1.1	J	UG/L	NC	30
17-MW-25MS	CL-99-18	Thallium	10	U	10	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Vanadium	2	J	2	J	UG/L	0	30
17-MW-25MS	CL-99-18	Zinc	129		131		UG/L	2	30
17-MW-25MS	CL-99-18	Diesel Range Organics	100	U	100	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Gasoline Range Organics	80	U	90	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Jp-4	50	U	50	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Motor Oil Range Organics	100	U	100	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1,1-Trichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1,2-Trichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1-Dichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,1-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2,3-Trichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2,3-Trichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2,4-Trichlorobenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2,4-Trimethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2-Dibromo-3-Chloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2-Dibromoethane (Edb)	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2-Dichloroethane	1		0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,2-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,3,5-Trimethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,3-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,3-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	1,4-Dichlorobenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	2,2-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	2-Butanone (Mek)	10	U	10	U	UG/L	NC	30
17-MW-25MS	CL-99-18	2-Chlorotoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	2-Hexanone	10	U	0.9	J	UG/L	NC	30
17-MW-25MS	CL-99-18	4-Chlorotoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	4-Methyl-2-Pentanone (Mibk)	10	U	10	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Acetone	10	UJ	10	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Benzene	13.6		13.6		UG/L	0	30
17-MW-25MS	CL-99-18	Bromobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Bromochloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Bromodichloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Bromoform	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Bromomethane	0.63	UJ	0.63	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Carbon Disulfide	10	UJ	10	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Carbon Tetrachloride	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Chlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Chloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Chloroform	0.5	J	0.4	J	UG/L	22	30
17-MW-25MS	CL-99-18	Chloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Cis-1,2-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Cis-1,3-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Dibromochloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Dibromomethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Dichlorodifluoromethane	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Ethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Hexachlorobutadiene	0.56	UJ	0.56	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Isopropylbenzene (Cumene)	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Methyl-T-Bytyl Ether (Mtbe)	1	U	1	U	UG/L	NC	30

Table C-2: Field Duplicate Precision, Crows Landing Groundwater, November 2001

Sample ID	Duplicate ID	Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Units	RPD	Control Limits
17-MW-25MS	CL-99-18	Methylene Chloride	2	U	2	U	UG/L	NC	30
17-MW-25MS	CL-99-18	N-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	N-Propylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Naphthalene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	P-Isopropyltoluene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Sec-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Styrene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	T-Butyl Alcohol	36	J	38	J	UG/L	5	30
17-MW-25MS	CL-99-18	Tert-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Tetrachloroethene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Toluene	0.4	J	0.5	J	UG/L	22	30
17-MW-25MS	CL-99-18	Trans-1,2-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Trans-1,3-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Trichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Trichlorofluoromethane	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-25MS	CL-99-18	Vinyl Chloride	0.5	U	0.5	U	UG/L	NC	30
17-MW-25MS	CL-99-18	Xylene (Total)	1	U	1	U	UG/L	NC	30
17-MW-03	CL-99-19	Alkalinity	164000		170000		UG/L	4	30
17-MW-03	CL-99-19	Chloride	43100		43100		UG/L	0	30
17-MW-03	CL-99-19	Nitrate As N	25000		24800		UG/L	1	30
17-MW-03	CL-99-19	Nitrite As N	500	U	500	U	UG/L	NC	30
17-MW-03	CL-99-19	Phosphorus, Orthophosphate	1000	U	1000	U	UG/L	NC	30
17-MW-03	CL-99-19	Solids, Total Dissolved	793000		786000		UG/L	1	30
17-MW-03	CL-99-19	Sulfate	287000		289000		UG/L	1	30
17-MW-03	CL-99-19	Antimony	10	U	10	U	UG/L	NC	30
17-MW-03	CL-99-19	Arsenic	5	U	5	U	UG/L	NC	30
17-MW-03	CL-99-19	Barium	25		25.3		UG/L	1	30
17-MW-03	CL-99-19	Beryllium	2	U	2	U	UG/L	NC	30
17-MW-03	CL-99-19	Cadmium	2	U	2	U	UG/L	NC	30
17-MW-03	CL-99-19	Chromium	37.3		38.1		UG/L	2	30
17-MW-03	CL-99-19	Cobalt	5	U	5	U	UG/L	NC	30
17-MW-03	CL-99-19	Copper	7.3	J	7.4	J	UG/L	1	30
17-MW-03	CL-99-19	Hexavalent Chromium	40		30		UG/L	29	30
17-MW-03	CL-99-19	Lead	5	U	5	U	UG/L	NC	30
17-MW-03	CL-99-19	Mercury	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Molybdenum	5	U	5	U	UG/L	NC	30
17-MW-03	CL-99-19	Nickel	5	U	5	U	UG/L	NC	30
17-MW-03	CL-99-19	Selenium	12.2	U	13.6		UG/L	NC	30
17-MW-03	CL-99-19	Silver	10	U	10	U	UG/L	NC	30
17-MW-03	CL-99-19	Thallium	10	U	10	U	UG/L	NC	30
17-MW-03	CL-99-19	Vanadium	2	J	2.2	J	UG/L	10	30
17-MW-03	CL-99-19	Zinc	249		256		UG/L	3	30
17-MW-03	CL-99-19	Diesel Range Organics	100	U	100	U	UG/L	NC	30
17-MW-03	CL-99-19	Gasoline Range Organics	50	J	50	J	UG/L	0	30
17-MW-03	CL-99-19	Jp-4	50	U	50	U	UG/L	NC	30
17-MW-03	CL-99-19	Motor Oil Range Organics	100	U	90	J	UG/L	NC	30
17-MW-03	CL-99-19	1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,1,1-Trichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,1,2-Trichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,1-Dichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,1-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,1-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2,3-Trichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2,3-Trichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2,4-Trichlorobenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	1,2,4-Trimethylbenzene	0.5	U	0.5	U	UG/L	NC	30

Table C-2: Field Duplicate Precision, Crows Landing Groundwater, November 2001

Sample ID	Duplicate ID	Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Units	RPD	Control Limits
17-MW-03	CL-99-19	1,2-Dibromo-3-Chloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2-Dibromoethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2-Dichloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,2-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,3,5-Trimethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,3-Dichlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,3-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	1,4-Dichlorobenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	2,2-Dichloropropane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	2-Butanone (Mek)	10	U	10	U	UG/L	NC	30
17-MW-03	CL-99-19	2-Chlorotoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	2-Hexanone	10	U	10	U	UG/L	NC	30
17-MW-03	CL-99-19	4-Chlorotoluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	4-Methyl-2-Pentanone	10	U	10	U	UG/L	NC	30
17-MW-03	CL-99-19	Acetone	10	UJ	10	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Benzene	0.5	U	0.4	J	UG/L	NC	30
17-MW-03	CL-99-19	Bromobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Bromochloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Bromodichloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Bromoform	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Bromomethane	0.63	UJ	0.63	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Carbon Disulfide	10	UJ	10	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Carbon Tetrachloride	118		142		UG/L	18	30
17-MW-03	CL-99-19	Chlorobenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Chloroethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Chloroform	7.9		10.5		UG/L	28	30
17-MW-03	CL-99-19	Chloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Cis-1,2-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Cis-1,3-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Dibromochloromethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Dibromomethane	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Dichlorodifluoromethane	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Ethylbenzene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Hexachlorobutadiene	0.56	UJ	0.56	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Isopropylbenzene (Cumene)	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Methyl-T-Bytyl Ether	1	U	1	U	UG/L	NC	30
17-MW-03	CL-99-19	Methylene Chloride	2	U	2	U	UG/L	NC	30
17-MW-03	CL-99-19	N-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	N-Propylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Naphthalene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	P-Isopropyltoluene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Sec-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Styrene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	T-Butyl Alcohol	20	UJ	20	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Tert-Butylbenzene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Tetrachloroethene	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Toluene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Trans-1,2-Dichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Trans-1,3-Dichloropropene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Trichloroethene	0.5	U	0.5	U	UG/L	NC	30
17-MW-03	CL-99-19	Trichlorofluoromethane	0.5	UJ	0.5	UJ	UG/L	NC	30
17-MW-03	CL-99-19	Vinyl Chloride	0.5	U	0.5	U	UG/L	NC	30

Table C-2: Field Duplicate Precision, Crows Landing Groundwater, November 2001

Sample ID	Duplicate ID	Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Units	RPD	Control Limits
17-MW-03	CL-99-19	Xylene (Total)	1	U	1	U	UG/L	NC	30

RPD denotes Relative Percent Difference

NC denotes that the RPD was not calculable for this parameter

ug/L denotes micrograms per liter

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

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

UJ qualifier indicates that the analyte was not detected. The reported quantitation limit is an estimate.

APCL

Applied Physics & Chemistry Laboratory

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

December 03, 2001

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

Dear Rose,

This package contains samples in our Service ID 801-017025 and your project 800063 Crows Landing.
Enclosed please find:

(1) Original report.
(2) Copy of Chain of Custody.
(3) One Diskette containing EDD Deliverable.
(4) One Original and one Copy of Leve 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 #: 801-017025
Collected by: RC/HM/RM
Collected on: 11/12/01

Received: 11/13/01
Extracted: 11/15/01
Tested: 11/13-19/01
Reported: 11/21/01

Sample Description: Ground Water
Project Description: 800063 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 11-MW-03 (11/01) 01-07025-1	11-MW-04 (11/01) 01-07025-2	17-MW-06 (11/01) 01-07025-3
ALKALINITY	310.1	mg-$CaCO_3$/L	20	226	296	42.6
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	892	815	97.0
Dilution Factor				15	10	1
CHLORIDE	300.0	mg/L	0.2	127	95.1	0.86
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	14.6	10.1	1.2
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<0.75	<0.5	0.12
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<1.5	<1	0.20
SULFATE	300.0	mg/L	0.5	259	213	5.4
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	µg/L	10	9.5J	4.5J	9.2J
ARSENIC	6010B	µg/L	5	1.8J	2.4J	<5
BARIUM	6010B	µg/L	10	46.7	76.9	13.2
BERYLLIUM	6010B	µg/L	2	<2	<2	<2
CADMIUM	6010B	µg/L	2	<2	<2	<2
CHROMIUM	6010B	µg/L	5	13.5	6.2	4.5J
COBALT	6010B	µg/L	5	0.69J	1.2J	<5
COPPER	6010B	µg/L	10	27.3	25.4	43.2
LEAD	6010B	µg/L	5	0.84J	1.2J	1.4J
MERCURY	7470A	µg/L	0.5	0.17J	<0.5	<0.5
MOLYBDENUM	6010B	µg/L	5	5.5	7.2	2.0J
NICKEL	6010B	µg/L	5	13.1	13.9	13.6
SELENIUM	6010B	µg/L	10	3.2J	<10	2.0J
SILVER	6010B	µg/L	10	<10	<10	<10
THALLIUM	6010B	µg/L	10	7.3J	5.4J	<10
VANADIUM	6010B	µg/L	10	2.5J	3.9J	2.5J
ZINC	6010B	µg/L	10	36.4	72.4	42.6
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.04J	0.03J	0.04J
Dilution Factor				1	1	1
JP-4	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	0.08J	0.1J	0.47

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Component Analyzed	Method	Unit	PQL	Analysis Result 11-MW-03 (11/01) 01-07025-1	11-MW-04 (11/01) 01-07025-2	17-MW-06 (11/01) 01-07025-3
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	0.63 (b)	<0.63	<0.63	<0.63
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	<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 (EDB)	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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Component Analyzed	Method	Unit	PQL [b]	Analysis Result 11-MW-03 (11/01) 01-07025-1	11-MW-04 (11/01) 01-07025-2	17-MW-06 (11/01) 01-07025-3
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 [b]	<0.56	<0.56	<0.56
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	2 [b]	<2	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1	<1
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20	<20

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-08 (11/01) 01-07025-4	17-MW-09 (11/01) 01-07025-5	17-MW-24MS (11/01) 01-07025-6
ALKALINITY	310.1	mg-$CaCO_3$/L	20	104	130	156
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	1,140	1,050	810
Dilution Factor				25	25	20
CHLORIDE	300.0	mg/L	0.2	52.5	42.1	119
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	31.2	24.3	15.6
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<1.3	<1.3	<1
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<2.5	<2.5	<2
SULFATE	300.0	mg/L	0.5	544	481	260

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Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-08 (11/01) 01-07025-4	17-MW-09 (11/01) 01-07025-5	17-MW-24MS (11/01) 01-07025-6
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	µg/L	10	7.5J	7.6J	6.3J
ARSENIC	6010B	µg/L	5	<5	<5	<5
BARIUM	6010B	µg/L	10	15.6	19.9	33.9
BERYLLIUM	6010B	µg/L	2	<2	<2	<2
CADMIUM	6010B	µg/L	2	<2	<2	<2
CHROMIUM	6010B	µg/L	5	26.5	21.7	6.6
COBALT	6010B	µg/L	5	<5	<5	1.3J
COPPER	6010B	µg/L	10	28.5	14.7	19.3
LEAD	6010B	µg/L	5	<5	<5	0.92J
MERCURY	7470A	µg/L	0.5	0.079J	0.12J	<0.5
MOLYBDENUM	6010B	µg/L	5	3.9J	2.7J	6.9
NICKEL	6010B	µg/L	5	16.6	8.6	15.9
SELENIUM	6010B	µg/L	10	25.1	21.1	7.0J
SILVER	6010B	µg/L	10	<10	<10	<10
THALLIUM	6010B	µg/L	10	5.7J	5.2J	6.3J
VANADIUM	6010B	µg/L	10	2.7J	2.2J	2.5J
ZINC	6010B	µg/L	10	156	76.2	61.3
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.03J	0.04J	0.04J
Dilution Factor				1	1	1
JP-4	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	0.06J	0.1J	0.06J
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	0.63 [b]	<0.63	<0.63	<0.63
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	1.4	1.9	<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

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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 (EDB)	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	0.56 (b)	<0.56	<0.56	<0.56
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	2 (b)	<2	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1	<1
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20	<20

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ALKALINITY	310.1	mg-$CaCO_3$/L	20	347	285	213
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	903	1,120	794
Dilution Factor				20	20	10
CHLORIDE	300.0	mg/L	0.2	112	167	57.0
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	16.0	9.6	9.9
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<1	<1	<0.5
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<2	<2	<1
SULFATE	300.0	mg/L	0.5	229	504	292
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	μg/L	10	4.6J	7.2J	6.4J
ARSENIC	6010B	μg/L	5	<5	<5	<5
BARIUM	6010B	μg/L	10	25.6	23.4	23.1
BERYLLIUM	6010B	μg/L	2	<2	0.19J	<2
CADMIUM	6010B	μg/L	2	<2	<2	<2
CHROMIUM	6010B	μg/L	5	9.1	10.2	15.8
COBALT	6010B	μg/L	5	<5	0.77J	<5
COPPER	6010B	μg/L	10	51.2	39.7	20.7
LEAD	6010B	μg/L	5	<5	2.0J	<5
MERCURY	7470A	μg/L	0.5	0.12J	0.14J	<0.5
MOLYBDENUM	6010B	μg/L	5	0.87J	5.0J	3.1J
NICKEL	6010B	μg/L	5	8.7	10.7	9.3
SELENIUM	6010B	μg/L	10	7.3J	12.9	10.5
SILVER	6010B	μg/L	10	<10	<10	<10
THALLIUM	6010B	μg/L	10	6.6J	10.6	3.5J
VANADIUM	6010B	μg/L	10	3.4J	4.5J	1.9J
ZINC	6010B	μg/L	10	215	185	179
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.03J	0.04J	0.02J
Dilution Factor				1	1	1
JP-4	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

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Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-24S (11/01) 01-07025-7	17-MW-25S (11/01) 01-07025-8	109-MW-01 (11/01) 01-07025-9
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	0.6	<0.5
BROMOFORM	8260B	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	8260B	µg/L	0.63 (b)	<0.63	<0.63	<0.63
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	0.8	<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 (EDB)	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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Component Analyzed	Method	Unit	PQL [b]	Analysis Result 17-MW-24S (11/01) 01-07025-7	17-MW-25S (11/01) 01-07025-8	109-MW-01 (11/01) 01-07025-9
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 [b]	<0.56	<0.56	<0.56
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	2 [b]	<2	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1	<1
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20	<20

Component Analyzed	Method	Unit	PQL	Analysis Result CL1-MW-05 (11/01) 01-07025-10	CL2-MW-05 (11/01) 01-07025-11
ALKALINITY	310.1	mg-$CaCO_3$/L	20	198	345
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	700	842
Dilution Factor				8	20
CHLORIDE	300.0	mg/L	0.2	18.3	116
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	14.7	9.4
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<0.4	<1
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<0.8	<2
SULFATE	300.0	mg/L	0.5	248	156

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Component Analyzed	Method	Unit	PQL	Analysis Result CL1-MW-05 (11/01) 01-07025-10	Analysis Result CL2-MW-05 (11/01) 01-07025-11
TTLC 17 METALS					
Dilution Factor				1	1
ANTIMONY	6010B	µg/L	10	6.0J	7.4J
ARSENIC	6010B	µg/L	5	<5	<5
BARIUM	6010B	µg/L	10	20.9	37.3
BERYLLIUM	6010B	µg/L	2	<2	<2
CADMIUM	6010B	µg/L	2	<2	<2
CHROMIUM	6010B	µg/L	5	27.2	21.2
COBALT	6010B	µg/L	5	<5	<5
COPPER	6010B	µg/L	10	9.3J	36.8
LEAD	6010B	µg/L	5	<5	<5
MERCURY	7470A	µg/L	0.5	0.11J	0.13J
MOLYBDENUM	6010B	µg/L	5	2.7J	2.2J
NICKEL	6010B	µg/L	5	3.8J	25.5
SELENIUM	6010B	µg/L	10	7.1J	4.7J
SILVER	6010B	µg/L	10	<10	<10
THALLIUM	6010B	µg/L	10	2.8J	5.3J
VANADIUM	6010B	µg/L	10	1.4J	1.6J
ZINC	6010B	µg/L	10	14.0	257
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.02J	0.02J
Dilution Factor				1	1
JP-4	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	0.07J
VOLATILE ORGANICS					
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	0.63 [b]	<0.63	<0.63
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

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Component Analyzed	Method	Unit	PQL	Analysis Result CL1-MW-05 (11/01) 01-07025-10	CL2-MW-05 (11/01) 01-07025-11
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 (EDB)	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
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 (b)	<0.56	<0.56
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	2 (b)	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20

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Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-17 01-07025-12	Analysis Result Trip Blank 01-07025-13
ALKALINITY	310.1	mg-$CaCO_3$/L	20	113	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	1,020	-
Dilution Factor				20	1
CHLORIDE	300.0	mg/L	0.2	52.0	-
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	31.7	-
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	< 1	-
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	< 2	-
SULFATE	300.0	mg/L	0.5	556	-
TTLC 17 METALS					
Dilution Factor				1	1
ANTIMONY	6010B	µg/L	10	7.2J	-
ARSENIC	6010B	µg/L	5	< 5	-
BARIUM	6010B	µg/L	10	14.7	-
BERYLLIUM	6010B	µg/L	2	< 2	-
CADMIUM	6010B	µg/L	2	< 2	-
CHROMIUM	6010B	µg/L	5	26.0	-
COBALT	6010B	µg/L	5	< 5	-
COPPER	6010B	µg/L	10	27.4	-
LEAD	6010B	µg/L	5	< 5	-
MERCURY	7470A	µg/L	0.5	0.11J	-
MOLYBDENUM	6010B	µg/L	5	3.8J	-
NICKEL	6010B	µg/L	5	15.5	-
SELENIUM	6010B	µg/L	10	28.0	-
SILVER	6010B	µg/L	10	< 10	-
THALLIUM	6010B	µg/L	10	5.7J	-
VANADIUM	6010B	µg/L	10	2.7J	-
ZINC	6010B	µg/L	10	155	-
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.02J	0.02J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [a]	-
Dilution Factor				1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	0.07J	-

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Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-17 01-07025-12	Analysis Result Trip Blank 01-07025-13
VOLATILE ORGANICS					
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	0.63 (b)	<0.63	<0.63
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	1.3	<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 (EDB)	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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Component Analyzed	Method	Unit	PQL [b]	Analysis Result CL-99-17 01-07025-12	Analysis Result Trip Blank 01-07025-13
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 [b]	<0.56	<0.56
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	2 [b]	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20

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 unknown isolated peak at C_{17}-C_{24} range.
[b] MDL reported.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

General Information

Project: 800063 Crows Landing

APCL Service ID: 801-017025

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

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: Crows Landing/800063

For The IT Group

APCL Service No: 01-7025

1. Sample Identification

The sample identifications are listed in the following table:

The IT Group Sample ID	APCL Sample ID
11-MW-03 (11/01)	01-07025-1
11-MW-04 (11/01)	01-07025-2
CL2-MW-05 (11/01)	01-07025-11
109-MW-01 (11/01)	01-07025-9
CL1-MW-05 (11/01)	01-07025-10
17-MW-08 (11/01)	01-07025-4
CL-99-17	01-07025-12
17-MW-09 (11/01)	01-07025-5
17-MW-24S (11/01)	01-07025-7
17-MW-24MS (11/01)	01-07025-6
17-MW-06 (11/01)	01-07025-3
17-MW-25S (11/01)	01-07025-8
Trip Blank	01-07025-13

2. Analytical Methodology

Samples are analyzed by EPA methods

8260B (Volatile organics),
M8015V/M8015G (Gasoline),
M8015E/M8015D (TPH: Diesel),
M8015E/M8015M (TPH: Motor Oil),
6010B (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

the igroup

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

Reference Document No.[30] 565334
Page 2 of 2

Project Name Crows Landing

Project No. 8000063

Samples Shipment Date 11/2/01

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.
17-MW-24S (11/01)		11/2/01, 1120	VOA	VOA-5	HCL	VOC-8260 ~~+EDB/DBCP/TBA~~ TPH Gas/JF		
17-MW-24MS (11/01)		1245	Liter	2	None	TPH DSL/M.O	FOR LAB USE ONLY	
17-MW-06 (11/01)		1335	HDPE	1-500ml	HNO3	CAM 17 metals - DISSOLVED		
17-MW-25S (11/01)		1430				Anions Alkalinity TDS	☆ USE FOR MS/MSD	Extra Sample Volume
—							FOR LAB USE ONLY	
—					☆ All	Samples All analyses		
—							FOR LAB USE ONLY	
—						7025		
—							FOR LAB USE ONLY	
trip blank						VOC-8260 TPH-gas/JF		
temp blank						temp		
							FOR LAB USE ONLY	
		R. Candell					FOR LAB USE ONLY	
							FOR LAB USE ONLY	

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

MCA 3/15/91

APCL

Applied Physics & Chemistry Laboratory

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

December 5, 2001

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

Dear Rose,

This package contains samples in our Service ID 01-7065 and your project 800063 Crows Landing. Enclosed please find:

(1) Original report.
(2) Oringinal Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original and one copy of Level C 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
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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 #: 801-017065
Collected by: RC/HM/RM
Collected on: 11/13/01

Received: 11/14/01
Extracted: 11/16/01
Tested: 11/14-20/01
Reported: 11/27/01

Sample Description: Water from CTO 004
Project Description: 800063 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-11 (11/01) 01-07065-1	17-MW-15 (11/01) 01-07065-2	17-MW-18 (11/01) 01-07065-3
ALKALINITY	310.1	mg-$CaCO_3$/L	20	194	90.5	158
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	740	1,360	753
Dilution Factor				10	40	12.5
CHLORIDE	300.0	mg/L	0.2	70.7	51.7	37.7
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	7.8	<1.6	12.3
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<0.5	<2	<0.63
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<1	<4	<1.3
SULFATE	300.0	mg/L	0.5	302	879	327
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	μg/L	10	5.3J	4.4J	4.0J
ARSENIC	6010B	μg/L	5	<5	<5	<5
BARIUM	6010B	μg/L	10	41.4	18.6	14.8
BERYLLIUM	6010B	μg/L	2	<2	<2	<2
CADMIUM	6010B	μg/L	2	0.50J	<2	0.30J
CHROMIUM	6010B	μg/L	5	3.3J	4.0J	30.1
COBALT	6010B	μg/L	5	0.32J	<5	<5
COPPER	6010B	μg/L	10	4.4J	3.4J	2.6J
LEAD	6010B	μg/L	5	2.9J	<5	1.9J
MERCURY	7470A	μg/L	0.5	0.14J	0.15J	<0.5
MOLYBDENUM	6010B	μg/L	5	7.1	4.6J	3.9J
NICKEL	6010B	μg/L	5	3.2J	<5	2.2J
SELENIUM	6010B	μg/L	10	11.2	<10	13.3
SILVER	6010B	μg/L	10	<10	<10	1.7J
THALLIUM	6010B	μg/L	10	<10	<10	<10
VANADIUM	6010B	μg/L	10	2.2J	<10	7.2J
ZINC	6010B	μg/L	10	430	67.8	64.9
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.03J	0.02J	0.01J
Dilution Factor				1	1	1
JP-4	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 [a]	<0.1 [a]	<0.1 [a]

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-11 (11/01) 01-07065-1	17-MW-15 (11/01) 01-07065-2	17-MW-18 (11/01) 01-07065-3
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	0.63 (b)	<0.63	<0.63	<0.63
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	0.7J	<10
CARBON TETRACHLORIDE	8260B	µg/L	0.5	2.3	<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 (EDB)	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 [b]	Analysis Result 17-MW-11 (11/01) 01-07065-1	17-MW-15 (11/01) 01-07065-2	17-MW-18 (11/01) 01-07065-3
HEXACHLOROBUTADIENE	8260B	μg/L	0.56 [b]	<0.56	<0.56	<0.56
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	2 [b]	<2	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	μg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	μg/L	1	<1	<1	<1
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
T-BUTYL ALCOHOL	8260B	μg/L	20	<20	<20	<20

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-25MS (11/01) 01-07065-4	117-MW-08 (11/01) 01-07065-5	117-MW-09 (11/01) 01-07065-6
ALKALINITY	310.1	mg-$CaCO_3$/L	20	219	149	194
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	732	716	1,390
Dilution Factor				20	10	40
CHLORIDE	300.0	mg/L	0.2	90.0	58.2	49.1
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	10.8	11.1	<1.6
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<1	<0.5	<2
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<2	<1	<4
SULFATE	300.0	mg/L	0.5	205	321	763

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-25MS (11/01) 01-07065-4	117-MW-08 (11/01) 01-07065-5	117-MW-09 (11/01) 01-07065-6
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	µg/L	10	3.7J	5.4J	4.9J
ARSENIC	6010B	µg/L	5	<5	2.2J	<5
BARIUM	6010B	µg/L	10	17.9	18.4	17.7
BERYLLIUM	6010B	µg/L	2	<2	<2	<2
CADMIUM	6010B	µg/L	2	<2	<2	<2
CHROMIUM	6010B	µg/L	5	5.8	29.8	5.9
COBALT	6010B	µg/L	5	<5	<5	<5
COPPER	6010B	µg/L	10	9.4J	10.3	12.1
LEAD	6010B	µg/L	5	<5	<5	<5
MERCURY	7470A	µg/L	0.5	0.12J	0.17J	0.18J
MOLYBDENUM	6010B	µg/L	5	3.7J	4.8J	8.9
NICKEL	6010B	µg/L	5	<5	4.0J	6.6
SELENIUM	6010B	µg/L	10	10.1	13.4	5.5J
SILVER	6010B	µg/L	10	<10	<10	<10
THALLIUM	6010B	µg/L	10	<10	<10	<10
VANADIUM	6010B	µg/L	10	2.0J	9.2J	0.64J
ZINC	6010B	µg/L	10	129	154	154
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.08	0.02J	0.04J
Dilution Factor				1	1	1
JP-4	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 [a]
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	8260B	µg/L	10	<10	<10	<10
BENZENE	8260B	µg/L	0.5	13.6	<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	0.63 [b]	<0.63	<0.63	<0.63
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	0.5J	<0.5	<0.5
CHLOROMETHANE	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 17-MW-25MS (11/01) 01-07065-4	117-MW-08 (11/01) 01-07065-5	117-MW-09 (11/01) 01-07065-6
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 (EDB)	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	<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	0.56 (b)	<0.56	<0.56	<0.56
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	2 (b)	<2	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1	<1
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	0.4J	<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
T-BUTYL ALCOHOL	8260B	µg/L	20	36	<20	<20

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Component Analyzed	Method	Unit	PQL	Analysis Result CL1-MW-04 (11/01) 01-07065-7	CL1-MW-06 (11/01) 01-07065-8	CL-99-18 01-07065-9
ALKALINITY	310.1	mg-$CaCO_3$/L	20	290	234	213
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	835	1,450	704
Dilution Factor				10	40	20
CHLORIDE	300.0	mg/L	0.2	68.5	88.4	92.8
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	4.0	25.0	11.0
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<0.5	<2	<1
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<1	<4	<2
SULFATE	300.0	mg/L	0.5	295	747	209
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	μg/L	10	6.9J	4.1J	3.3J
ARSENIC	6010B	μg/L	5	<5	<5	<5
BARIUM	6010B	μg/L	10	26.9	17.9	16.9
BERYLLIUM	6010B	μg/L	2	<2	<2	<2
CADMIUM	6010B	μg/L	2	<2	<2	0.32J
CHROMIUM	6010B	μg/L	5	5.9	27.6	5.9
COBALT	6010B	μg/L	5	<5	<5	<5
COPPER	6010B	μg/L	10	3.1J	4.6J	9.0J
LEAD	6010B	μg/L	5	1.5J	2.3J	<5
MERCURY	7470A	μg/L	0.5	0.16J	<0.5	0.13J
MOLYBDENUM	6010B	μg/L	5	1.5J	6.7	3.6J
NICKEL	6010B	μg/L	5	<5	3.8J	14.7
SELENIUM	6010B	μg/L	10	7.4J	60.5	10.2
SILVER	6010B	μg/L	10	<10	1.0J	1.1J
THALLIUM	6010B	μg/L	10	<10	<10	<10
VANADIUM	6010B	μg/L	10	2.2J	2.1J	2.0J
ZINC	6010B	μg/L	10	83.7	598	131
Dilution Factor				1	1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.02J	0.02J	0.09
Dilution Factor				1	1	1
JP-4	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

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Component Analyzed	Method	Unit	PQL	Analysis Result CL1-MW-04 (11/01) 01-07065-7	CL1-MW-06 (11/01) 01-07065-8	CL-99-18 01-07065-9
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	13.6
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	0.63 (b)	<0.63	<0.63	<0.63
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	<0.5	<0.5	0.4J
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 (EDB)	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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Component Analyzed	Method	Unit	PQL [b]	Analysis Result CL1-MW-04 (11/01) 01-07065-7	CL1-MW-06 (11/01) 01-07065-8	CL-99-18 01-07065-9
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 [b]	<0.56	<0.56	<0.56
2-HEXANONE	8260B	µg/L	10	<10	<10	0.9J
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	2 [b]	<2	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1	<1
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	0.5J
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20	38

Component Analyzed	Method	Unit	PQL	Analysis Result NASA-SW-3 (11/01) 01-07065-10	Trip Blank 01-07065-11
ALKALINITY	310.1	mg-$CaCO_3$/L	20	128	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	1,090	-
Dilution Factor				20	1
CHLORIDE	300.0	mg/L	0.2	89.4	-
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	14.3	-
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<1	-
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<2	-
SULFATE	300.0	mg/L	0.5	751	-

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Component Analyzed	Method	Unit	PQL	Analysis Result NASA-SW-3 (11/01) 01-07065-10	Analysis Result Trip Blank 01-07065-11
TTLC 17 METALS					
Dilution Factor				1	1
ANTIMONY	6010B	µg/L	10	3.7J	-
ARSENIC	6010B	µg/L	5	<5	-
BARIUM	6010B	µg/L	10	32.7	-
BERYLLIUM	6010B	µg/L	2	<2	-
CADMIUM	6010B	µg/L	2	<2	-
CHROMIUM	6010B	µg/L	5	10.9	-
COBALT	6010B	µg/L	5	<5	-
COPPER	6010B	µg/L	10	7.1J	-
LEAD	6010B	µg/L	5	<5	-
MERCURY	7470A	µg/L	0.5	<0.5	-
MOLYBDENUM	6010B	µg/L	5	1.8J	-
NICKEL	6010B	µg/L	5	<5	-
SELENIUM	6010B	µg/L	10	40.9	-
SILVER	6010B	µg/L	10	0.93J	-
THALLIUM	6010B	µg/L	10	<10	-
VANADIUM	6010B	µg/L	10	3.8J	-
ZINC	6010B	µg/L	10	112	-
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.02J	0.02J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [a]	-
Dilution Factor				1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1	-
VOLATILE ORGANICS					
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	0.63 [b]	<0.63	<0.63
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 (EDB)	8260B	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result NASA-SW-3 (11/01) 01-07065-10	Analysis Result Trip Blank 01-07065-11
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
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 (b)	<0.56	<0.56
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	2 (b)	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1
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

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result NASA-SW-3 (11/01) 01-07065-10	Analysis Result Trip Blank 01-07065-11
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
T-BUTYL ALCOHOL	8260B	μg/L	20	<20	<20

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 isolated peaks at about C_{11}-C_{28} range.
(b) MDL reported.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: 800063 Crows Landing

APCL Service ID: 801-017065

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: 01-7065

1. Sample Identification

The sample identifications are listed in the following table:

The IT Group Sample ID	APCL Sample ID
17-MW-11 (11/01)	01-07065-1
CL1-MW-06 (11/01)	01-07065-8
17-MW-25MS (11/01)	01-07065-4
CL-99-18	01-07065-9
NASA-SW-3 (11/01)	01-07065-10
117-MW-08 (11/01)	01-07065-5
CL1-MW-04 (11/01)	01-07065-7
117-MW-09 (11/01)	01-07065-6
17-MW-18 (11/01)	01-07065-3
17-MW-15 (11/01)	01-07065-2
Trip Blank	01-07065-11

2. Analytical Methodology

Samples are analyzed by EPA methods

8260B (Volatile organics),
M8015V (Gasoline),
M8015V (JP-4),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
6010B/7470A (TTLC 17 Metals),
300.0 (Anions by IC),
310.1 (Alkalinity),
160.1 (Solids, Total Dissolved (TDS)),

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,

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

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 565333
Page 1 of 2

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

Samples Shipment Date[7] 11/13/01
Lab Destination[8] APCL
Lab Contact[9] Hsin-Ye
Project Contact/Phone[12] RCondit 288-2157
Carrier/Waybill No.[13] FedEx

Bill to:[5] IT-Concord
Rich Jannka

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]
17-MW-11 (11/01)		11/13/01 825	VOA	5	HCL	EPA 8260-TBA, EDB, MTBE TPH GAS/JF		
CL1-MW-06 (11/01)		934	Liter	2	None	TPH-DSL/M.O.		
17-MW-25MS (11/01)		835	HDPE	500ml	HNO3	CAM 17 - Dissdved	Good Condition	
CL-99-18		845	HDPE	1Liter	None	TDS / Alkalinity Anions.	Temp - 4.3°C	
NASA-SW-3 (11/01)		845					5.6°C	
117-MW-08 (11/01)		1015				* All Samples All	Analyx	
CL1-MW-04 (11/01)		1116						
117-MW-09 (11/01)		1220						

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7065

Special Instructions:[23] Anions * - Cl^-, SO_4, NO_2, NO_3, PO_4

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) RJ Condit	Date: 11/13/01 Time:	1. Received by[28] (Signature/Affiliation) FedEx	Date: 11/13/01 Time:
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: 11/14/01 Time: 0900
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments:[29] Fed Ex - 8267 8597 9579 8267-8597 9590
- 8267 8597 9580

*See back of form for special instructions.

MCA 3/15/91

the i group

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

Reference Document No.[30] 565 333
Page 2 of 2

Project Name Cross Landing

Project No. 800063

Samples Shipment Date 11/13/01

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.
17-MW-18(11/01)		11/13/01 1200	VOA	5	HCL	VOC-8260 +TBA, MTBE, EDB TPH-gas /DF		
17-MW-15(11/01)		+ 1440	Liter	2	None	TPH DSL/MO		
			HDPE	1-500 1-Liter	HNO3 None	CAM 17 metals - Dissolved Alkalinity, Anions TDS		
trip blank		—	VOA	2	HCL	8260 TPH gas /DF		
temp blank								

FOR LAB USE ONLY

7065

RCW 4

White: To accompany samples
Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

APCL

Applied Physics & Chemistry Laboratory

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

December 3, 2001

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

Dear Rose

This package contains samples in our Service ID 01-7095 and your project Crows Landing. Enclosed please find:

(1) Original report.
(2) Copy of Chain of Custody.
(3) One Diskette containing EDD Deliverable.
(4) One original and one copy of Level C 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 Analytic al 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 #: 801-017095
Collected by: RC/HM/RM
Collected on: 11/14/01

Received: 11/15/01
Extracted: 11/16/01
Tested: 11/15-20/01
Reported: 11/27/01

Sample Description: Water From Crows Landing
Project Description: 800063 Crows Landing

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-03 (11/01) 01-07095-1	CL-1-MW-12MD (11/01) 01-07095-2	17-MW-13 (11/01) 01-07095-3
ALKALINITY	310.1	mg-$CaCO_3$/L	20	164	279	243
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	793	842	1,340
Dilution Factor				10	10	20
CHLORIDE	300.0	mg/L	0.2	43.1	61.0	124
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	25.0	0.74	5.2
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<0.5	<0.5	<1
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<1	1.3	<2
SULFATE	300.0	mg/L	0.5	287	316	566
TTLC 17 METALS						
Dilution Factor				1	1	1
ANTIMONY	6010B	μg/L	10	5.0J	5.1J	3.0J
ARSENIC	6010B	μg/L	5	<5	8.9	<5
BARIUM	6010B	μg/L	10	25.0	56.7	23.3
BERYLLIUM	6010B	μg/L	2	<2	<2	<2
CADMIUM	6010B	μg/L	2	<2	<2	<2
CHROMIUM	6010B	μg/L	5	37.3	3.6J	<5
COBALT	6010B	μg/L	5	<5	<5	0.40J
COPPER	6010B	μg/L	10	7.3J	3.3J	3.7J
LEAD	6010B	μg/L	5	<5	<5	<5
MERCURY	7470A	μg/L	0.5	<0.5	0.087J	0.12J
MOLYBDENUM	6010B	μg/L	5	4.4J	2.5J	8.9
NICKEL	6010B	μg/L	5	0.99J	0.58J	3.1J
SELENIUM	6010B	μg/L	10	12.2	4.2J	4.5J
SILVER	6010B	μg/L	10	<10	<10	<10
THALLIUM	6010B	μg/L	10	<10	<10	<10
VANADIUM	6010B	μg/L	10	2.0J	<10	1.3J
ZINC	6010B	μg/L	10	249	24.0	434
Dilution Factor				1	10	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.02J	23.6 [a]	0.27
Dilution Factor				1	10	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.5	<0.05
Dilution Factor				1	1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [b]	<0.1 [b]	<0.1 [b]
Dilution Factor				1	1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1	<0.1	<0.1

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 17-MW-03 (11/01) 01-07095-1	CL1-MW-12 MD (11/01) 01-07095-2	17-MW-13 (11/01) 01-07095-3
VOLATILE ORGANICS						
Dilution Factor				1	1	1
ACETONE	8260B	µg/L	10	<10	<10	67
BENZENE	8260B	µg/L	0.5	<0.5	12,600 (c)	4.2
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	0.63 (d)	<0.63	<0.63	<0.63
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	3.7	0.6
TERT-BUTYLBENZENE	8260B	µg/L	0.5	<0.5	4.1	2.1
CARBON DISULFIDE	8260B	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	8260B	µg/L	0.5	118	2.5	<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	7.9	<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 (EDB)	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	13.2	5.3
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	4.5	0.3J

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL [d]	Analysis Result 17-MW-03 (11/01) 01-07095-1	CL1-MW-1 2MD (11/01) 01-07095-2	17-MW-13 (11/01) 01-07095-3
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 [d]	<0.56	<0.56	<0.56
2-HEXANONE	8260B	µg/L	10	<10	<10	<10
ISOPROPYLBENZENE (CUMENE)	8260B	µg/L	0.5	<0.5	1,250 [c]	126
P-ISOPROPYLTOLUENE	8260B	µg/L	0.5	<0.5	0.5	<0.5
METHYLENE CHLORIDE	8260B	µg/L	2 [d]	<2	<2	4
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1	<1
NAPHTHALENE	8260B	µg/L	0.5	<0.5	3.2	<0.5
N-PROPYLBENZENE	8260B	µg/L	0.5	<0.5	7.5	2.2
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	2.5	0.4J
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	11.2	<0.5
1,3,5-TRIMETHYLBENZENE	8260B	µg/L	0.5	<0.5	< 0.5	0.3J
VINYL CHLORIDE	8260B	µg/L	0.5	<0.5	< 0.5	<0.5
XYLENE (TOTAL)	8260B	µg/L	1	<1	6.5	<1
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20	260

Component Analyzed	Method	Unit	PQL	Analysis Result 117-MW-10S (11/01) 01-07095-4	CL1-MW-09S (11/01) 01-07095-5
ALKALINITY	310.1	mg-$CaCO_3$/L	20	409	294
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	740	1,440
Dilution Factor				20	20
CHLORIDE	300.0	mg/L	0.2	154	122
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	1.4	12.8
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	<1	4.7
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<2	<2
SULFATE	300.0	mg/L	0.5	91.5	643

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-MW-10S (11/01) 01-07095-4	CL1-MW-09S (11/01) 01-07095-5
TTLC 17 METALS					
Dilution Factor				1	1
ANTIMONY	6010B	µg/L	10	3.4J	3.5J
ARSENIC	6010B	µg/L	5	<5	<5
BARIUM	6010B	µg/L	10	92.1	12.8
BERYLLIUM	6010B	µg/L	2	<2	<2
CADMIUM	6010B	µg/L	2	<2	<2
CHROMIUM	6010B	µg/L	5	<5	<5
COBALT	6010B	µg/L	5	0.73J	<5
COPPER	6010B	µg/L	10	5.5J	3.6J
LEAD	6010B	µg/L	5	<5	1.1J
MERCURY	7470A	µg/L	0.5	0.089J	0.16J
MOLYBDENUM	6010B	µg/L	5	12.0	5.4
NICKEL	6010B	µg/L	5	2.2J	4.4J
SELENIUM	6010B	µg/L	10	<10	16.5
SILVER	6010B	µg/L	10	<10	<10
THALLIUM	6010B	µg/L	10	<10	<10
VANADIUM	6010B	µg/L	10	0.82J	1.9J
ZINC	6010B	µg/L	10	471	95.4
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.15 [a]	0.37 [a]
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [b]	<0.1 [b]
Dilution Factor				1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1	<0.1
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	8260B	µg/L	10	<10	<10
BENZENE	8260B	µg/L	0.5	<0.5	197 [e]
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	0.63 [d]	<0.63	<0.63
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	0.3J
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	18.8
CHLOROMETHANE	8260B	µg/L	0.5	<0.5	<0.5

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

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 117-MW-10S (11/01) 01-07095-4	CL1-MW-09S (11/01) 01-07095-5
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 (EDB)	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	155	10.3
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	0.8	<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
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 (d)	<0.56	<0.56
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	2 (d)	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1
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	0.4J
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
T-BUTYL ALCOHOL	8260B	µg/L	20	160	48

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-19 01-07095-6	Analysis Result Trip Blank 01-07095-7
ALKALINITY	310.1	mg-$CaCO_3$/L	20	170	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	786	-
Dilution Factor				10	1
CHLORIDE	300.0	mg/L	0.2	43.1	-
NITRATE (NO_3^-) AS N	300.0	mg/L	0.04	24.8	-
NITRITE (NO_2^-) AS N	300.0	mg/L	0.05	< 0.5	-
PHOSPHORUS, ORTHOPHOSPHATE	300.0	mg/L	0.1	<1	-
SULFATE	300.0	mg/L	0.5	289	-
TTLC 17 METALS					
Dilution Factor				1	1
ANTIMONY	6010B	µg/L	10	3.4J	-
ARSENIC	6010B	µg/L	5	<5	-
BARIUM	6010B	µg/L	10	25.3	-
BERYLLIUM	6010B	µg/L	2	<2	-
CADMIUM	6010B	µg/L	2	<2	-
CHROMIUM	6010B	µg/L	5	38.1	-
COBALT	6010B	µg/L	5	<5	-
COPPER	6010B	µg/L	10	7.4J	-
LEAD	6010B	µg/L	5	<5	-
MERCURY	7470A	µg/L	0.5	< 0.5	-
MOLYBDENUM	6010B	µg/L	5	4.7J	-
NICKEL	6010B	µg/L	5	1.0J	-
SELENIUM	6010B	µg/L	10	13.6	-
SILVER	6010B	µg/L	10	< 10	-
THALLIUM	6010B	µg/L	10	< 10	-
VANADIUM	6010B	µg/L	10	2.2J	-
ZINC	6010B	µg/L	10	256	-
Dilution Factor				1	1
GASOLINE RANGE ORGANICS	M8015V	mg/L	0.05	0.03J	0.01J
Dilution Factor				1	1
JP-4	M8015V	mg/L	0.05	<0.05	<0.05
Dilution Factor				1	1
DIESEL RANGE ORGANICS	M8015E	mg/L	0.1	<0.1 [b]	-
Dilution Factor				1	1
MOTOR OIL RANGE ORGANICS	M8015E	mg/L	0.1	0.09J	-

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result CL-99-19 01-07095-6	Analysis Result Trip Blank 01-07095-7
VOLATILE ORGANICS					
Dilution Factor				1	1
ACETONE	8260B	µg/L	10	<10	<10
BENZENE	8260B	µg/L	0.5	0.4J	<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	0.63 (d)	<0.63	<0.63
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	142	<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	10.5	<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 (EDB)	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 [d]	Analysis Result CL-99-19 01-07095-6	Trip Blank 01-07095-7
HEXACHLOROBUTADIENE	8260B	µg/L	0.56 [d]	<0.56	<0.56
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	2 [d]	<2	<2
4-METHYL-2-PENTANONE (MIBK)	8260B	µg/L	10	<10	<10
METHYL-T-BYTYL ETHER (MTBE)	8260B	µg/L	1	<1	<1
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
T-BUTYL ALCOHOL	8260B	µg/L	20	<20	<20

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] Not a typical Gasoline pattern.
[b] Sample chromatogram contained isolated peaks at C_{11}-C_{16} range.
[c] Analyzed with a dilution factor of 100.
[d] MDL reported.
[e] Analyzed with a dilution factor of 2.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: CROWS LANDING

APCL Service ID: 801-017095

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/800063

For The IT Group

APCL Service No: 01-7095

1. Sample Identification

The sample identifications are listed in the following table:

The IT Group Sample ID	APCL Sample ID
CL1-MW-09S (11/01)	01-07095-5
117-MW-10S (11/01)	01-07095-4
17-MW-03 (11/01)	01-07095-1
CL-99-19	01-07095-6
17-MW-13 (11/01)	01-07095-3
17-MW-12MD (11/01)	01-07095-2
Trip Blank	01-07095-7

2. Analytical Methodology

Samples are analyzed by EPA methods

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

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

the i group

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 565335
Page 1 of 1

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

Samples Shipment Date 7 11/14/01
Lab Destination 8 APCL
Lab Contact 9 Hsin-Ye
Project Contact/Phone 12 R Condit 288-2157
Carrier/Waybill No. 13 FedEx

Bill to: 5 IT-Concord, Rich Iannica
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
CL1-MW09S (11/01)		11/14/01 840	VOA	5	HCL	8260 + MTBE, EDB, TBA TPH gas/JF		
117-MW-109 (11/01)		830	glass	2-L	None	TPH DSL/m.o	FOR LAB USE ONLY	
17-MW-03 (11/01)		930	HDPE	1-500	HNO_3	CAM-17 Dissolved		
CL-99-19		940	HDPE	1-L	None	Anions - Cl, SO_4, NO_2, NO_3 PO4 Alkalinity / TDS		
17-MW-13 (11/01)		930					Good Condition Temp: 3.6°C	
17-MW-12MD (11/01)		1020				7095	FOR LAB USE ONLY	
trip blank		—				8260 - TBA, EDB, MTBE TPH gas/JF		

Special Instructions: 23 All Samples - All analyses

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)	Date: 11/14/01 Time:	1. Received by 28 (Signature/Affiliation) FedEx	Date: 11/14/01 Time:
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: 11/15/01 Time: 09:00
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29
FedEx # 8267 8597 9605
8267 8597 9616

*See back of form for special instructions.

INORGANIC ANALYSIS

APPL, INC.

Data Validation Package
for

INORGANIC ANALYSIS

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LABORATORY NAME: *APPL, Inc.*

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Sample Data	17
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Raw Data	30

APPL, INC.

INORGANIC ANALYSIS
Case Narrative

APPL, INC.

4203 West Swift ∇ Fresno, California 93722 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

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

ARF: 36919

Project: 800063 CROWS LANDING

Sample Receipt Information:

The sample group was assigned Analytical Request Form (ARF) number 36919 and the sample numbers and requested analysis were compared to the chain of custody. The shuttle was received at 4° C. No exceptions were encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
17-MW-11	AP25161	Water	11/13/01	11/13/01
CL1-MW-06	AP25162	Water	11/13/01	11/13/01
17-MW-25MS	AP25163	Water	11/13/01	11/13/01
CL-99-18	AP25164	Water	11/13/01	11/13/01
NASA-SW-3	AP25165	Water	11/13/01	11/13/01
117-MW-08	AP25166	Water	11/13/01	11/13/01
CL1-MW-04	AP25167	Water	11/13/01	11/13/01
117-MW-09	AP25168	Water	11/13/01	11/13/01
17-MW-18	AP25169	Water	11/13/01	11/13/01
17-MW-15	AP25170	Water	11/13/01	11/13/01

Sample Preparation:

The samples were prepared according to the method.

Analysis Information:

Samples:

The samples were analyzed according to EPA method 7196A. All sample data were investigated for trace levels ranging between the PQL and current MDL of 0.0062 mg/L. All such findings would have been flagged with a "J" indicator.

Calibrations:

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

Blanks:

No target compound was detected at or above the reporting level.

Spikes:

The laboratory control spike and spike duplicate met all acceptance criteria. The matrix spike and matrix spike duplicate was performed on sample NASA-SW-3 (AP25165). All spike recoveries met acceptance criteria.

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 her designee, as verified by the following signature.

Paula Young 12/5/01

Paula Young, Laboratory Manager/ Date

INORGANIC ANALYSIS
Chain of Custody and ARF

APPL, INC.

APPL - Analysis Request Form # 36919

:lient: **IT Corporation**
ddress: **4005 Port Chicago Highway**
Concord, CA 94520-1120
ttn: **Rose Condit**
'hone: **925-288-9898** Fax: **925-288-0888**
ob: **800063 CROWS LANDING**
'O #: **NA**
:hain of Custody (Y/N): **Y** # **565338**
:AD Screen (Y/N): **Y** pH (Y/N): **N**
urn Around Type: **STD**

Received by: **BK**
Date Received: **11/13/01** Time: **17:00**
Delivered by: **SAMEDAY EXPRES**
Shuttle Custody Seals (Y/N): **Y**
Chest Temp(s): **4° HB/B39036**
Color: **BLUEPURPLE**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **GLEN BROWN**
QC Report Type: **LEVEL3/CA**
Due Date: **11/25/01**

:omments:
:EPORT DOWN TO MDL!!!

Sample Distribution:
/etlab: 10-$7196()

Charges:

Invoice To:

Client ID	APPL ID	Sampled		Analyses Requested
1. 17-MW-11	AP25161W	11/13/01	08:25	$7196()
2. CL1-MW-06	AP25162W	11/13/01	09:34	$7196()
3. 17-MW-25MS	AP25163W	11/13/01	08:35	$7196()
4. CL-99-18	AP25164W	11/13/01	08:45	$7196()
5. NASA-SW-3	AP25165W	11/13/01	08:45	$7196()
6. 117-MW-08	AP25166W	11/13/01	10:15	$7196()
7. CL1-MW-04	AP25167W	11/13/01	11:10	$7196()
8. 117-MW-09	AP25168W	11/13/01	12:20	$7196()
9. 17-MW-18	AP25169W	11/13/01	12:00	$7196()

0. 17-MW-15 AP25170W 11/13/01 14:40 $7196()

the igroup

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 565338
Page 1 of 2

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

Samples Shipment Date [7] 11/13/01
Lab Destination [8] APPL
Lab Contact [9] Glen Brown
Project Contact/Phone [12] R Condit 288-2157
Carrier/Waybill No. [13] Same Day Express

Bill to: [5] IT-Concord
R. Jannica
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]
17-MW-11 (11/01)	Q4-2001	11/13/01 825	HDPE	250ml	None	7196A - Hex Cr		
CL1-MW-06 (11/01)	Groundwater	934						
17-MW-25MS (11/01)	Sampling	835						
CL-99-18		845						
NASA-SW-3 (11/01)		845						
117-MW-08 (11/01)		1015						
CL1-MW-04 (11/01)		1110						
117-MW-09 (11/01)		1220						

Special Instructions: [23]

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) R Condit Date: 11/13/01 Time:
1. Received by [28] (Signature/Affiliation) Same Day Express Date: 11/13/01 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: 11/13/01 Time: 1200

Comments: [29]

*See back of form for special instructions.

MCA 3/15/91

the i group

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

Reference Document No.[30] 565338
Page 2 of 2

Project Name Crows Landing

Project No. 800063

Samples Shipment Date 11/13/01

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.
17-MW-18(11/01)		4/13/01 1200	HDPE	250	None	7196A Hex Cr		
17-MW-15(11/01)		1440						
Temp blank						Cooler Temperature		

FOR LAB USE ONLY

White: To accompany samples
Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

COOLER RECEIPT FORM

Project: 800063 Crows Landing Date Received: 11-13-01 Number of Coolers: _____

1. Did cooler come with a shipping slip (air bill, etc.)? YES NO NA
   If yes enter carrier name and air bill numbers: Saturday Express
2. Ice Chest Number _____
3. Were custody seals on outside of cooler? YES NO NA
   How many? _____ Date on seal? _____ Name on seal? _____
4. Were custody seals unbroken and intact at the time of arrival? YES NO NA
5. Were samples screened for radioactivity? YES NO NA
6. Was a chain of custody received? YES NO NA
7. Were the custody papers filled out properly? YES NO NA
8. Were the custody papers signed in the appropriate places? YES NO NA
9. Was the project identifiable from custody papers? YES NO NA
10. If required, was enough ice used? Type of ice: wet ice YES NO NA
11. Shuttle temperature(s): 4° Serial number of certified thermometer used: HB/B 39036
12. Was a temperature blank included in the cooler? YES NO NA
11. Describe type of packing in cooler: Plastic Bags wet ice
12. Were all containers sealed in separate bags? YES NO NA
13. Did all containers arrive unbroken and were labels in good condition? YES NO NA
14. Were all container labels complete (ID, date, time, signature, preservative, etc.)? YES NO NA
15. Did all container labels agree with custody papers? YES NO NA
16. Were correct containers used for the tests indicated? YES NO NA
17. Were correct preservatives added to the samples? YES NO NA
18. Was a sufficient amount of sample sent for tests indicated? YES NO NA
19. Were bubbles present in volatile samples? YES NO NA
    If yes, list by sample ID. The following VOAs were received with air bubbles:
    Larger than a pea: _____
    Smaller than a pea: _____
20. Was a sufficient amount of holding time remaining to analyze the samples? YES NO NA
21. Is location where sample was taken listed on the COC? YES NO NA

Signature of personnel receiving samples: Eric [illegible]

Comments: _____

Name of _____

COOLER CUSTODY SEAL

Phone (909) 590-1828

PCL

Date 11/13/01

Signature R Condit

No.

APCL

INORGANIC ANALYSIS
Sample Data

APPL, INC.

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: 17-MW-11

Sample Collection Date: 11/13/01

APPL ID: AP25161

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:52 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: CL1-MW-06

Sample Collection Date: 11/13/01

APPL ID: AP25162

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.0081 J	0.02	mg/L	11/14/01	11/14/01

J = Estimated value, below quantitation limit.

Printed: 11/20/01 2:06:52 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: 17-MW-25MS

Sample Collection Date: 11/13/01

APPL ID: AP25163

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: CL-99-18

APPL ID: AP25164

Sample Collection Date: 11/13/01

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: NASA-SW-3

Sample Collection Date: 11/13/01

APPL ID: AP25165

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: 117-MW-08

Sample Collection Date: 11/13/01

APPL ID: AP25166

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.0241	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: CL1-MW-04

Sample Collection Date: 11/13/01

APPL ID: AP25167

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: 117-MW-09

Sample Collection Date: 11/13/01

APPL ID: AP25168

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: 17-MW-18

Sample Collection Date: 11/13/01

APPL ID: AP25169

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.0241	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 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: 17-MW-15

Sample Collection Date: 11/13/01

APPL ID: AP25170

ARF: 36919

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/20/01 2:06:53 PM

INORGANIC ANALYSIS

APPL, INC.

Data Validation Package
for

INORGANIC ANALYSIS

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	3
Chain of Custody and ARF	6
QC Summary	12
Sample Data	19
Calibration Data	32
Raw Data	34

APPL, INC.

INORGANIC ANALYSIS
Case Narrative

PPL, INC.

4203 West Swift ∇ Fresno, California 93722 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

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

ARF: 36904

Project: 800063 CROWS LANDING

Sample Receipt Information:

The sample group was assigned Analytical Request Form (ARF) number 36904 and the sample numbers and requested analysis were compared to the chain of custody. The shuttles were received at 3° and 5°C. No exceptions were encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
11-MW-03	AP25057	Water	11/12/01	11/12/01
11-MW-04	AP25058	Water	11/12/01	11/12/01
CL2-MW-05	AP25059	Water	11/12/01	11/12/01
109-MW-01	AP25060	Water	11/12/01	11/12/01
CL1-MW-05	AP25061	Water	11/12/01	11/12/01
17-MW-08	AP25062	Water	11/12/01	11/12/01
CL-99-17	AP25063	Water	11/12/01	11/12/01
17-MW-09	AP25064	Water	11/12/01	11/12/01
17-MW-24S	AP25065	Water	11/12/01	11/12/01
17-MW-24MS	AP25066	Water	11/12/01	11/12/01
17-MW-06	AP25067	Water	11/12/01	11/12/01
17-MW-25S	AP25068	Water	11/12/01	11/12/01

Sample Preparation:

The samples were prepared according to the method.

Analysis Information:

Samples:

The samples were analyzed according to EPA method 7196A. All sample data were investigated for trace levels ranging between the PQL and current MDL of 0.0062 mg/L. All such findings would have been flagged with a "J" indicator.

Calibrations:

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

Blanks:

No target compound was detected at or above the reporting level.

Spikes:

The laboratory control spike and spike duplicate met all acceptance criteria. The matrix spikes and matrix spike duplicates were performed on samples 11-MW-04 (AP25058) and 17-MW-25S (AP25068). All spike recoveries met acceptance criteria.

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 her designee, as verified by the following signature.

Paula Young 12/5/01

Paula Young, Laboratory Manager/ Date

INORGANIC ANALYSIS
Chain of Custody and ARF

APPL, INC.

APPL - Analysis Request Form # 36904

ent: IT Corporation
ldress: 4005 Port Chicago Highway
Concord, CA 94520-1120
:n: Rose Condit
ıone: 925-288-9898 Fax: 925-288-0888
b: 800063 CROWS LANDING
) #: NA
ıain of Custody (Y/N): Y # 565336
ıD Screen (Y/N): Y pH (Y/N): N
rn Around Type: STD

Received by: BK
Date Received: 11/12/01 Time: 17:30
Delivered by: SAMEDAY EXPRES
Shuttle Custody Seals (Y/N): Y
Chest Temp(s): 3°,5° HB/B39036
Color: BLACK
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: GLEN BROWN
QC Report Type: LEVEL 4/CA
Due Date: 11/24/01

mments:
PORT DOWN TO MDL!!!

mple Distribution:
tlab: 12-$7196()

Charges:

Invoice To:
ATTN Rich Ianniza

Client ID	APPL ID	Sampled		Analyses Requested
11-MW-03	AP25057W	11/12/01	08:15	$7196()
11-MW-04	AP25058W	11/12/01	09:10	$7196()
CL2-MW-05	AP25059W	11/12/01	08:45	$7196()
109-MW-01	AP25060W	11/12/01	10:15	$7196()
CL1-MW-05	AP25061W	11/12/01	09:55	$7196()
17-MW-08	AP25062W	11/12/01	10:50	$7196()
CL-99-17	AP25063W	11/12/01	10:55	$7196()
17-MW-09	AP25064W	11/12/01	12:20	$7196()
17-MW-24S	AP25065W	11/12/01	11:20	$7196()

10. 17-MW-24MS		AP25066W	11/12/01	12:45	$7196()
11. 17-MW-06		AP25067W	11/12/01	13:35	$7196()
12. 17-MW-25S	MS/MSD	AP25068W	11/12/01	14:30	$7196()

the IT group

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 565336
Page 1 of 2

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

Samples Shipment Date [7] 11/12/01
Lab Destination [8] APPL
Lab Contact [9] Glen Brown
Project Contact/Phone [12] RCondit 288-2151
Carrier/Waybill No. [13] Same Day Express

Bill to: [5] IT-Concord
Rich Iannizzi
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]
11-MW03 (11/01)	Q4-2001	11/12/01 815	HDPE	250ml	ICE	7196A / Hex Cr.		
11-MW-04 (11/01)	Groundwater	910					FOR LAB USE ONLY	
CL2-MW-05 (11/01)	Monitoring	845						
109-MW-01 (11/01)		1015						
CL1-MW-05 (11/01)		955						
17-MW-08 (11/01)		1050						
CL-99-17		1055						
17-MW-09 (11/01)		* 1220						

Special Instructions: [23] * Use Sample 17-MW-255 (11/01) for MS/MSD

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) RC Condit	Date: 11/12/01 Time:	1. Received by [28] (Signature/Affiliation) Same Day Express Courier	Date: 11/12/01 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: 11/12/01 Time: 1730

Comments: [29]

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

6

the igroup

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

Reference Document No.[30] 565336
Page 2 of 2

Project Name Crows Landing

Project No. 8000613

Samples Shipment Date 11/12/01

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.
17-MW-24S (11/01)		11/12/01 1120	HDPE	250ml	None	7196A Hex Cr		
17-MW-24MS (11/01)		1245					FOR LAB USE ONLY	
17-MW-OLD (11/01)		1335						
17-MW-25S (11/01)		1430					*Use for MS/MSD	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	
~~trip blank~~	No	~~RCH/DFW~~	~~VOA~~	~~2~~	—	~~VOC-8260~~ ~~TPH-gas/JF~~	FOR LAB USE ONLY	
temp blank						Temp		
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

INORGANIC ANALYSIS
Sample Data

APPL, INC.

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: 11-MW-03

Sample Collection Date: 11/12/01

APPL ID: AP25057

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:00 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: 11-MW-04

Sample Collection Date: 11/12/01

APPL ID: AP25058

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:00 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: CL2-MW-05

Sample Collection Date: 11/12/01

APPL ID: AP25059

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.023	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:00 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: 109-MW-01

Sample Collection Date: 11/12/01

APPL ID: AP25060

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:00 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: CL1-MW-05

APPL ID: AP25061

Sample Collection Date: 11/12/01

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:00 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: 17-MW-08

Sample Collection Date: 11/12/01

APPL ID: AP25062

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.0063 J	0.02	mg/L	11/13/01	11/13/01

= Estimated value, below quantitation limit.

Printed: 11/20/01 2:28:03 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: CL-99-17

Sample Collection Date: 11/12/01

APPL ID: AP25063

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.015J	0.02	mg/L	11/13/01	11/13/01

= Estimated value, below quantitation limit.

Printed: 11/20/01 2:06:01 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: 17-MW-09

Sample Collection Date: 11/12/01

APPL ID: AP25064

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.0076 J	0.02	mg/L	11/13/01	11/13/01

= Estimated value, below quantitation limit.

Printed: 11/20/01 2:06:01 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: 17-MW-24S

Sample Collection Date: 11/12/01

APPL ID: AP25065

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:01 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: 17-MW-24MS

Sample Collection Date: 11/12/01

APPL ID: AP25066

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:01 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: 17-MW-06

Sample Collection Date: 11/12/01

APPL ID: AP25067

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

Printed: 11/20/01 2:06:01 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: 17-MW-25S

Sample Collection Date: 11/12/01

APPL ID: AP25068

ARF: 36904

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/13/01	11/13/01

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INORGANIC ANALYSIS

APPL, INC.

Data Validation Package
for

INORGANIC ANALYSIS

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APPL, INC.

INORGANIC ANALYSIS
Case Narrative

APPL, INC.

4203 West Swift ∇ Fresno, California 93722 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

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

ARF: 36929

Project: 800063 CROWS LANDING

Sample Receipt Information:

The sample group was assigned Analytical Request Form (ARF) number 36929 and the sample numbers and requested analysis were compared to the chain of custody. The shuttle was received at 4°C. The COC identified sample 17-MW-12MD but was labeled CL1-MW-12MD on the bottle. No other exceptions were encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
CL1-MW-09S	AP25223	Water	11/14/01	11/14/01
117-MW-10S	AP25224	Water	11/14/01	11/14/01
17-MW-03	AP25225	Water	11/14/01	11/14/01
CL-99-19	AP25226	Water	11/14/01	11/14/01
17-MW-13	AP25227	Water	11/14/01	11/14/01
CL17-MW-12MD	AP25228	Water	11/14/01	11/14/01

Sample Preparation:

The samples were prepared according to the method.

Analysis Information:

Samples:

The samples were analyzed according to EPA method 7196A. All sample data were investigated for trace levels ranging between the PQL and current MDL of 0.0062 mg/L. All such findings would have been flagged with a "J" indicator.

Calibrations:

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

Blanks:

No target compound was detected at or above the reporting level.

Spikes:

The laboratory control spike and spike duplicate met all acceptance criteria. The matrix spike and matrix spike duplicate was performed on sample 117-MW-10S (AP25224). All spike recoveries met acceptance criteria.

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 her designee, as verified by the following signature.

Paula Young 12/5/01

Paula Young, Laboratory Manager/ Date

INORGANIC ANALYSIS
Chain of Custody and ARF

APPL, INC.

APPL - Analysis Request Form # 36929

Client: IT Corporation
Address: 4005 Port Chicago Highway
Concord, CA 94520-1120
Attn: Rose Condit
Phone: 925-288-9898 Fax: 925-288-0888
Job: 800063 CROWS LANDING
PO #: NA
Chain of Custody (Y/N): Y # 565337
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: BK
Date Received: 11/14/01 Time: 14:30
Delivered by: SAMEDAY EXPRES
Shuttle Custody Seals (Y/N): N
Chest Temp(s): 4° HB/B39036
Time in/Color: 1500 / ORANGE
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: GLEN BROWN
QC Report Type: LEVEL 3/CA
Due Date: 11/26/01

Comments:
REPORT DOWN TO MDL! COC HAS 17-MW-12MD BUT BOTTLE READS CLI-MW-12MD.

Client ID	APPL ID	Sampled		Analyses Requested
1. CL1-MW-09S	AP25223W	11/14/01	08:40	$7196()
2. 117-MW-10S	AP25224W	11/14/01	08:30	$7196()
3. 17-MW-03	AP25225W	11/14/01	09:30	$7196()
4. CL-99-19	AP25226W	11/14/01	09:40	$7196()
5. 17-MW-13	AP25227W	11/14/01	09:30	$7196()
6. 17-MW-12MD	AP25228W	11/14/01	10:20	$7196()

Sample Distribution: Charges: Invoice To:
Wetlab: 6-$7196()

the igroup

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 565337
Page 1 of 1

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

Samples Shipment Date [7] 11/14/01
Lab Destination [8] APPL
Lab Contact [9] Glen Brown
Project Contact/Phone [12] Rose Condit 288-2157
Carrier/Waybill No. [13] Same Day Express

Bill to: [5] IT-Concord
R. Iannizza
Report to: [10] IT-Concord
R. 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]
CL1-MW-09S (11/01)		11/14/01 840	HDPE	250ml	None	Hex Cr - 7196A		
117-MW-10S (11/01)		830					FOR LAB USE ONLY	
17-MW-03 (11/01)		930						
CL-99-19		940						
17-MW-13 (11/01)		930					FOR LAB USE ONLY	
17-MW-12MD (11/01)		1020						
temp blank		—	—	—	—	Cooler temp		

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):

1. Relinquished by [28] (Signature/Affiliation) Rose Condit — Date: 11/14/01 Time:	1. Received by [28] (Signature/Affiliation) Same Day Express — Date: 11/14/01 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: 11/14/01 Time: 1430

Comments: [29]

*See back of form for special instructions.

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INORGANIC ANALYSIS
Sample Data

APPL, INC.

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: CL1-MW-09S

Sample Collection Date: 11/14/01

APPL ID: AP25223

ARF: 36929

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

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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: 117-MW-10S

Sample Collection Date: 11/14/01

APPL ID: AP25224

ARF: 36929

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/16/01 4:36:40 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: 17-MW-03

Sample Collection Date: 11/14/01

APPL ID: AP25225

ARF: 36929

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.04	0.02	mg/L	11/14/01	11/14/01

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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: CL-99-19

Sample Collection Date: 11/14/01

APPL ID: AP25226

ARF: 36929

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	0.03	0.02	mg/L	11/14/01	11/14/01

Printed: 11/16/01 4:36:40 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: 17-MW-13

Sample Collection Date: 11/14/01

APPL ID: AP25227

ARF: 36929

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/16/01 4:36:40 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: 17-MW-12MD

Sample Collection Date: 11/14/01

APPL ID: AP25228

ARF: 36929

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
SW846 7196A	Hexavalent Chromium	Not detected	0.02	mg/L	11/14/01	11/14/01

Printed: 11/16/01 4:36:40 PM