

**RECEIVED**

1:26 pm, Mar 27, 2008

Alameda County  
Environmental Health

Mr. Jerry Wickham  
Hazardous Materials Specialist  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

RE: **Eagle Gas Station**  
4301 San Leandro Street  
Oakland, California 94601  
LOP StID# 2118  
Fuel Leak Case No. RO0000096  
USTCF Claim No. 014551  
Clearwater Group Project # ZP046I

Dear Mr. Wickham,

As the legally authorized representative of the above-referenced project location, I have reviewed the January 25, 2008, *Bench Test Report; Sodium Persulfate with Three Activators*, prepared by Environmental Bio-Systems, Inc., of Mill Valley, California, for the Clearwater Group. The Clearwater Group is the consultant of record for the Eagle Gas Station site. I declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of my knowledge.

Sincerely,



Mr. Muhammad Jamil

Date: 2-5-08



February 7, 2008

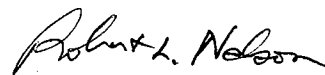
Mr. Jerry Wickham  
Hazardous Materials Specialist  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

**RE: Persulfate Bench Test Results**  
Fuel Leak Case # RO 0096  
Clearwater Project # ZP046D  
Eagle Gas  
4301 San Leandro Street  
Oakland, California

Dear Mr. Wickham:

Clearwater Group (Clearwater) is pleased to submit a copy of the January 25, 2008, *Bench Test Report; Sodium Persulfate with Three Activators, Eagle Gas, 4301 San Leandro Street, Oakland, CA* (Report). The Report was prepared for Clearwater by Environmental Bio-Systems, Inc. (EBS), of Mill Valley, California. The report concludes that the application of sodium persulfate to the site soils would be effective in remediating petroleum hydrocarbons. However, the in-situ application of sodium persulfate would also greatly increase the release of heavy metals from the site. Included with the Report is a signed perjury statement from Mr. Muhammad Jamil, the legally authorized representative of the Eagle Gas site. Should you have any questions or comments regarding this Report, please either email me at [rnelson@clearwatergroup.com](mailto:rnelson@clearwatergroup.com) or call me at 510-307-9943 x 237.

Sincerely,  
CLEARWATER GROUP

  
Robert L. Nelson, PG, CEG  
Senior Geologist

Enclosures: EBS January 25, 2008 Bench Test Report  
Perjury Statement



# Environmental Bio-Systems, Inc.

**Innovative Solutions for a Better Environment**

**www.EBSinfo.com Since 1989**

Contractor's Lic. # 687236: A-B-C57-Haz-Asb-HIC

January 25, 2008

Mr. Robert Nelson, PG, CEG  
Project Manager  
Clearwater Group  
229 Tewksbury Avenue  
Point Richmond, CA 94801

**RE: Bench Test Report; Sodium Persulfate with Three Activators**

Eagle Gas  
4301 San Leandro St.  
Oakland, CA 94601  
LOP StID# 2118  
USTCF Claim No. 014551  
Clearwater Group Project # ZP046

Dear Mr. Nelson;

Environmental Bio-Systems, Inc. (EBS) has performed a series of laboratory experiments designed to evaluate the destructive capabilities of one chemical oxidizer with three different activators for the remediation of the petroleum hydrocarbon contaminated soil from 4301 San Leandro Street in Oakland, California. EBS conducted three case studies:

- Case 1      25% sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ ) and 15% hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) with no pH adjustment;
- Case 2      25% sodium persulfate and 3% iron(III) sodium EDTA with no pH adjustment; and
- Case 3      25% sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ ) and 20% sodium hydroxide (NaOH).

Summary

The Case 3 chemical solution of 25% sodium persulfate and 20% sodium hydroxide is the best choice for treating the groundwater. The results indicate that Case 3 chemistry represents the best set of results for chemicals to be used for source remediation on-site since the addition of 25% sodium persulfate and 20% sodium hydroxide reduces the hydrocarbons, MTBE, and TBA the most completely of the three cases studied.

### In-Situ Treatment of Soil and Groundwater

Issues related to the releasing heavy metals from the soil into groundwater are a serious issue. The fixing of the heavy metals released, including arsenic, chromium, lead, and selenium, must be carefully evaluated and planned prior to any serious consideration for in-situ treatments.

### Above-Ground Water Treatment

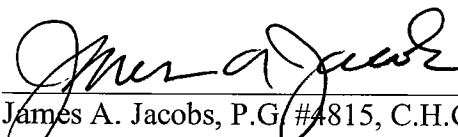
For above-ground treatment of pumped groundwater, chemical oxidation using Case 3 chemistry can be used. The release of heavy metals from soil is not an issue in a pumped groundwater system. This site already has an EBMUD discharge permit.

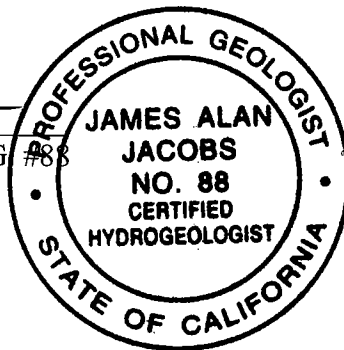
Additional evaluation of the remedial options described above and other options will be ongoing as the various remedial actions are being considered.

Please call me at (415) 381-5195 if you have any questions.

Sincerely,

**Environmental Bio-Systems, Inc.**

  
James A. Jacobs, P.G. #815, C.H.G. #88  
Chief Hydrogeologist



### Attachments

#### **Attachment A:** Bench Test Report

**Bench Test Report**  
**References**

#### **Attachment B:** Case Study Tables and Charts

**Table 1:** Chemical Oxidation: Oxidizing Agents  
**Table 2:** Comparative Relative Strengths of Various Oxidants  
**Table 3:** Summary of Field and Laboratory Analysis  
**Table 4A** – Case 1 - Organic Compounds Analysis Data  
**Table 4B** – Case 1 - Metal Analysis Data  
**Table 4C** – Case 1 - Indirect Geochemical Indicators  
**Chart 4A** – Case 1 - Concentrations BTEX vs. Time  
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**Table 5B** – Case 2 - Metal Analysis Data  
**Table 5C** – Case 2 - Indirect Geochemical Indicators  
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**Chart 5B** – Case 2 - Concentrations of TPH-g, TPH-d, & MTBE vs. Time

**Table 6A** – Case 3 - Organic Compounds Analysis Data

**Table 6B** – Case 3 - Metal Analysis Data

**Table 6C** – Case 3 - Indirect Geochemical Indicators

**Chart 6A** – Case 3 - Concentrations BTEX vs. Time

**Chart 6B** – Case 3 - Concentrations of TPH-g, TPH-d, & MTBE vs. Time

**Table 7:** Case Comparison

**Attachment C:** Lab Reports

## ATTACHMENTS

# ATTACHMENT A

## **BENCH TEST REPORT**

### **Sodium Persulfate with Three Activators**

Eagle Gas  
4301 San Leandro St.  
Oakland, CA 94601  
LOP StID# 2118  
USTCF Claim No. 014551  
Clearwater Group Project # ZP046

#### **Report for Bench Testing**

#### **SUMMARY INFORMATION**

Name: Eagle Gas Station  
Site: 4301 San Leandro St., Oakland, California

Environmental Bio-Systems performed bench testing on soil and groundwater from the site in anticipation of future in-situ remediation.

#### **PURPOSES OF BENCH TESTING FOR GROUNDWATER REMEDIATION**

The purposes of the bench testing prior to performing the field work are as follows:

- To define the existing baseline geochemical conditions prior to remediation;
- To evaluate the chemical reactions in the laboratory before applying them to field conditions;
- To assess selected side reaction by-products (heavy metals), including arsenic, lead, chromium, cadmium, and mercury;
- To evaluate the potential viability of using specific oxidation chemistries such as hydrogen peroxide and/or sodium persulfate to remediate the source zone in soil and groundwater.

#### **Soil and Groundwater Samples**

Representative soil samples were collected in the field by Clearwater Group personnel of Point Richmond, California. Environmental Bio-Systems, Inc. (EBS) used soil from MW-7D, located behind the Eagle Gas Station Convenience Store, from a depth of about 20 feet below ground surface(bgs).



Five 1-foot sections of 2-inch diameter soil cores were used for the bench testing study. The soils were removed from the polyethylene terephthalate glycol (PETG) plastic sleeves and placed in a 5-gallon plastic pail. The soil clods were crushed by hand, and the soil was mixed together. In addition, approximately 5 gallons of groundwater were collected from MW-5 and used in the bench testing.

### **Baseline Analytical Testing: Control Samples**

One sample of soil and one sample of groundwater were collected and analyzed for the following compounds:

- Total Petroleum Hydrocarbons as Gasoline (TPH-g),
- Total Petroleum Hydrocarbons as Diesel (TPH-d),
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX),
- Chemical Oxygen Demand (COD)
- Biological Oxygen Demand (BOD<sub>5</sub>)
- General Mineral
- Oxygenates: Methyl-Tert-Butyl Ether (MTBE), Diisopropyl Ether (DIPE), Ethyl-Tert-Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), and Tert-Butanol.
- Lead Scavengers - 1,2-Dibromoethane (1,2-EDB) and 1,2-Dichloroethane (1,2-DCA);
- Arsenic (As), Cadmium (Cd), Chromium (Cr), Chromium VI (Cr[VI]), Mercury (Hg), Lead (Pb), Selenium (Se), Barium (Ba), Manganese (Mn), Chloride (Cl), and Bromate (Br).

### **REMEDIAL APPROACH**

The overall remedial approach is to inject a chemical oxidizing agent into the shallow soil and groundwater to reduce petroleum hydrocarbons. A summary of chemical oxidizers is presented in **Table 1**. The relative strengths of various chemical oxidants are presented in **Table 2**. Please refer to the reference list for documentation of a variety of chemical oxidation processes, most notably Suthersan (2002), Watts (1992), Watts et al. (1990, 1991), Watts and Stanton (1994), and Jacobs and Testa (2003). Liang et al. (2004) describes persulfate in-situ remediation. More information on sodium persulfate-specific cases can be obtained at [www.fmcchemicals.com](http://www.fmcchemicals.com).

### **SAMPLE COLLECTION**

A representative saturated soil sample was carefully selected for the bench scale testing on the basis of an understanding of the site geology, its contamination, and groundwater characteristics. Representative saturated soil and groundwater samples were collected for the implementation of the bench scale tests in the proximity of the source of contamination to best replicate the actual site conditions expected during implementation of the remedial design.

## BENCH TESTING

EBS is performing the bench tests to evaluate both the potential of the treatment chemicals to degrade the target compounds found on the site and the potential of the treatment chemicals to mobilize transition metals as a result of the oxidation chemistry. Soil and groundwater samples were analyzed for arsenic, cadmium, chromium, lead, and mercury before and after the bench tests.

The results of the bench testing using the chemical oxidants described below will provide valuable data needed for the design and application of in-situ chemical oxidation remediation of the target compounds at the site.

Case 1	25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment
Case 2	25% sodium persulfate and 3% iron(III) sodium EDTA with no pH adjustment
Case 3	25% sodium persulfate and 20% sodium hydroxide

## LABORATORY ANALYSIS OF SAMPLES

EBS made soil slurries from representative saturated soil, mixing it with groundwater from the site. The soil slurries were then placed in separate test chambers. The initial soil slurry was analyzed for each of the constituents listed in **Table 3** for each of the bench tests. The soil and water concentrations of the Control Sample before ( $T = \text{time}$ ;  $T_0 = \text{initial}$ ) and after ( $T_{21} = \text{final}$ ) show the degradation potential of each of the chemical oxidants. The groundwater was analyzed for the chemical constituents and metals after the bench tests were conducted to determine whether the metals were dissolved.

In addition, the following parameters were also measured:

- Temperature;
- pH;
- Conductivity;
- Dissolved Oxygen (DO);
- Oxidation-Reduction Potential (ORP);
- Total Iron, Iron(II), Iron(III) by calculation
- % Reagent Remaining
- Soil Oxygen Demand ( $\text{SOD}_{\text{persulfate}}$ )

## PROTOCOL

Twelve samples containing soil and site groundwater were prepared with the above-mentioned treatment chemicals. In addition, one “blank” sample (Control Sample) was prepared to measure the initial concentration of the contaminants in the soil and site groundwater. The samples were spiked with a known concentration of the contaminant to facilitate the bench testing. EBS prepared all samples in 1-liter (L) soil chambers. The chambers were sealed with a rubber cap. The needle valve of the Tedlar® bag was attached with Teflon® tape to the rubber cap to capture any gases generated inside the soil chambers.

## BENCH TESTING PROCEDURES

For each sample, meters were used to measure the site water for dissolved oxygen (DO), oxidation-reduction potential (ORP), and pH. Water was analyzed for iron(II) and total iron using a colorimetric method. Percent-of-remaining-reagent (hydrogen peroxide and sodium persulfate) tests were performed using titration tests. Water in the Control Samples was analyzed in the laboratory for 5-day biological oxygen demand (BOD<sub>5</sub>) and chemical oxygen demand (COD). Soil was analyzed before the bench test for soil oxygen demand using persulfate (SOD<sub>persulfate</sub>).

## LABORATORY DETAILS

The soil slurry was mixed in a 5-gallon plastic pail. EBS used groundwater as the wetting agent. After mixing, EBS placed the soil into a 1-liter test chamber, pouring groundwater onto the soil slurry until it became saturated. Excess groundwater (the amount needed for analysis) was also placed into the test chamber.

To simulate groundwater movement, EBS closed the test chamber lid and agitated the test chamber (at atmospheric pressure) slightly for one minute, just to move the chemical oxidant into the soil slurry. Each lab test chamber was sealed with a rubber stopper with tubing leading from the inside of the stopper through the stopper and into an external Tedlar® polyvinyl fluoride (PVF) 1-liter vapor bag. The volume of gas in the Tedlar® bags was estimated using a water displacement method.

The groundwater samples were analyzed at time zero, and after 1, 7, 14, and 21 days.

- At time zero, the Control Sample was analyzed for background constituents and general mineral and physical characteristics.
- After 1 day, all the test samples treated were prepared for analysis.
- After 7 days, all the test samples treated were prepared for analysis.
- After 14 days, all the test samples treated were prepared for analysis.

- After 21 days, all the test samples treated were prepared for analysis. After 21 days, a final sample (soil and groundwater) was prepared for analysis.

The laboratory analyses were performed at a state-certified laboratory (Precision Enviro-Tech of Stockton, California) using a standard turnaround time. As needed, the groundwater samples were filtered in the laboratory.

## **LABORATORY SAFETY**

Personal protective equipment included chemical-resistant gloves and safety glasses. Adequate ventilation for performing the bench tests was provided by a properly vented chemical fume hood in the laboratory. An EBS Chemical Hygiene Plan was prepared and was available at the laboratory.

## **PROCEDURES**

### Contaminated Soil and Groundwater

Soil borings were mixed together to ensure uniform samples. Soil samples (200 grams [g] each) were placed in wide-mouth 1-liter test chambers. Associated groundwater (500 milliliters [mL]) was added to the soil in each test chamber. The test chamber contents were duplicated to allow sampling at different reaction durations. Time (t) is shown as T = 0 (initial control), T = 1 day, T = 7 days, T = 14 days, and T = 21 days (final time period).

### Sample Spike

Because of the high concentrations of TPH-g (12,200 µg/L), TPH-d (10,100 µg/L), and MTBE (4,260 µg/L) in groundwater, a gasoline spike was not added to the samples.

## **FIELD-MEASURED GEOCHEMICAL PARAMETERS**

### Dissolved Oxygen (DO)

The hydrocarbons and organic material decompose in situ and consume the available oxygen. The level of DO identifies the aerobic and anaerobic conditions of regions of the contaminated site. DO levels should increase with the addition of most oxidizing agents such as sodium persulfate or hydrogen peroxide.

### Oxidation-Reduction Potential (ORP)

ORP measures the relative electrical/chemical potential to produce an oxidation-reduction (redox) reaction or the ability to donate electrons (oxidation) from hydrogen and organic/inorganic chemicals and to accept electrons (reduction) using oxygen or other terminal acceptors such as nitrate, nitrite, sulfate, carbon dioxide, iron(III), and manganese(IV). ORP should increase with the addition of most oxidizing agents such as sodium persulfate and hydrogen peroxide.

## pH

The pH, or potential of hydrogen, is an expression of the negative logarithm of the hydronium ion ( $\text{H}_3\text{O}^+$ ) concentration in an aqueous solution. pH is used to measure the acidity or alkalinity (baseness) of a solution. Aqueous solutions at 25° C with a pH less than seven are considered acidic, while those with a pH greater than seven are considered alkaline (basic). A pH of 7.00 is considered neutral at 25° C because at this pH the concentration of  $\text{H}_3\text{O}^+$  approximately equals the concentration of hydroxide ( $\text{OH}^-$ ) in pure water.

## Temperature

Temperature is measured in degrees Centigrade and ranged from 19.31° C to 25.4° C in the laboratory during the experiments.

## SOD

Soil oxygen demand (SOD) is a measure, in grams per liter, of the loss of persulfate due to reaction with soil matrix components as well as through auto-decomposition.  $\text{SOD}_{\text{persulfate}}$  is dependent upon soil composition as well as the concentration of persulfate used. For this report,  $\text{SOD}_{\text{persulfate}}$  is indicated as SOD.

## **METALS**

In order to have enough liquid in the bench test chamber for analysis, more liquid than would be normally observed in the field was used. Consequently, a higher level of metal desorption may occur in the test chamber than might be noted at the site. The oxidizing conditions that might liberate transitional metals will not exist for more than 3 or 4 months. After the oxidizing solutions are consumed, the aquifer will return to pre-treatment conditions, most likely a reducing environment. At that time, the soluble transition metals will likely precipitate back into their original forms, likely sulfides, hydroxides, or carbonates.

## **CONTROL SAMPLES**

The Control Sample was used for the initial sampling concentrations in both groundwater and soil.

**CASE 1**

Sample Number EGC-1

Eagle Gas

4301 San Leandro St.

Oakland, CA 94601

LOP StID# 2118

USTCF Claim No. 014551

Clearwater Group Project # ZP046

**Chemistry: 25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment**

One hundred (100) mL of a 25% (250 g/L) aqueous sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ ) solution, formula mass = 238.1, were added to the slurry mixture, and the flask was swirled for 15 seconds. Then, 100 mL of a 15% hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) solution were added, and again the flask was swirled for 15 seconds. There was no pH adjustment for this case.

- 200 grams soil
- 500 mL groundwater
- 100 mL 25% aqueous sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ )
- 100 mL 15% hydrogen peroxide ( $\text{H}_2\text{O}_2$ )

**NOTES:**

mL milliliters

$\mu\text{g/L}$  micrograms per liter, approximately parts per billion (ppb)

mg/L milligrams per liter, approximately parts per million (ppm)

Comment

A mole ratio of 4.2:1  $\text{H}_2\text{O}_2/\text{Na}_2\text{S}_2\text{O}_8$  was used on the basis of recommendations of Chief Chemist Jacques Guertin, Ph.D. Recommendations from the literature are broad, suggesting a ratio of up to a 5:1 ratio of  $\text{H}_2\text{O}_2$  to  $\text{Na}_2\text{S}_2\text{O}_8$ .

Oxidizing Agent Remaining After Reaction				
	T = 1 Day	T = 7 Days	T = 14 Days	T = 21 Days
$\text{H}_2\text{O}_2$ (%)	NA	0.50	0.50	0
$\text{Na}_2\text{S}_2\text{O}_8$ (%)	NA	0.04	0.029	0

**NA = Not Analyzed**

## CASE 1 RESULTS

The results for Case 1 are summarized in **Tables 1A-1C** and **Charts 1A-1B**. In Case 1, the TPH-g level started at 12,200 micrograms per liter ( $\mu\text{g/L}$ ), and after the first day it was reduced to less than 4,610  $\mu\text{g/L}$ , a 62% decrease. After 7 days the TPH-g level dropped to 1,050  $\mu\text{g/L}$ , a 91% decrease. At 14 days, the TPH-g levels were no longer detected, and its concentration remained below the detection limit (100  $\mu\text{g/L}$ ) during the next test at 21 days. The TPH-d levels started at 10,100  $\mu\text{g/L}$ , were reduced to 8,960  $\mu\text{g/L}$  on the first day, and dropped below the detection limits for day 7, where they remained for the rest of the analysis. Case 1 was also successful in lowering the BTEX levels to below the detection limits by the time of the second analysis at 7 days, except for o-Xylene, which dropped to below the detection limits by the time of the third analysis at 14 days. In terms of TPH-g, TPH-d, and BTEX, Case 1 achieved desired results within the analysis timeframe.

Although Case 1 appears to be a good option for chemical oxidation, most of the metals present increased in concentration. Arsenic increased from 8.3  $\mu\text{g/L}$  to 1090  $\mu\text{g/L}$ , chromium increased from 78  $\mu\text{g/L}$  to 1,840  $\mu\text{g/L}$ , and manganese increased from 1,230  $\mu\text{g/L}$  to 101,000  $\mu\text{g/L}$ .

**CASE 2**

Sample Number EGC-2

Eagle Gas  
 4301 San Leandro St.  
 Oakland, CA 94601  
 LOP StID# 2118  
 USTCF Claim No. 014551  
 Clearwater Group Project # ZP046

**Chemistry: 25% sodium persulfate and 3% iron(III) sodium ethylenediaminetetracetate (EDTA) with no pH adjustment**

One hundred (100) mL of a 25% (250 g/L) aqueous sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ ) solution, formula mass = 238.1, were added to the mixture, and the flask was swirled for 15 seconds. Twenty (20) mL of a 3% (30 g/L) aqueous iron(III) sodium ethylenediaminetetracetate (Fe(III)Na EDTA)\* solution,  $\text{Fe}(\text{OOCCH}_2)_2\text{NCH}_2\text{CH}_2\text{N}(\text{CH}_2\text{COO})_2\text{Na}$ ,  $\text{C}_{10}\text{H}_{12}\text{FeN}_2\text{NaO}_8$ , formula mass = 367.05, were added, and again the flask was swirled for 15 seconds. There was no pH adjustment for this case.

- 200 grams soil
- 500 mL groundwater
- 100 mL 25% aqueous  $\text{Na}_2\text{S}_2\text{O}_8$
- 20 mL 3% aqueous Fe(III)Na EDTA

NOTES:

mL milliliters

$\mu\text{g/L}$  micrograms per liter, approximately parts per billion (ppb)

mg/L milligrams per liter, approximately parts per million (ppm)

Using an Fe(II) form of EDTA (e.g., iron(II) disodium ethylenediaminetetraacetate trihydrate, Fe(II)Na<sub>2</sub> EDTA 3-water) would have been another option. However, its use would have resulted in a much faster reaction with oxidizers such as  $\text{H}_2\text{O}_2$ , and the Fe(II) compound is considerably more expensive. Also, the Fe(II) quickly converts to Fe(III) anyway.

Oxidizing Agent Remaining After Reaction				
	T = 1 Day	T = 7 Days	T = 14 Days	T = 21 Days
$\text{H}_2\text{O}_2$ (%)	NA	NA	NA	NA
$\text{Na}_2\text{S}_2\text{O}_8$ (%)	7.1	0.29	0	0

NA = the hydrogen peroxide was not present in Case 2.



## CASE 2 RESULTS

Case 2 results are summarized in **Tables 2A-2C** and **Charts 2A-2B**. In Case 2, the TPH-g level started at 12,200 µg/L, and it was reduced during the first day to 9,460 µg/L, a 22.5% reduction. After 7 days TPH-g increased slightly to 10,900 µg/L. This anomaly is suspected to have occurred because of the mobilization of chemicals from the soil into the water after the oxidant was applied. However, on day 14 TPH-g was reduced to 1,390 µg/L, an 89% reduction from the initial control sample value. Finally, after 21 days the TPH-g concentration dropped below the detection limit (100 µg/L). For TPH-d, the initial control value was 10,100 µg/L. It dropped to 9,280 µg/L on the first day, and down to 1,200 on day 7, an 88% reduction. By day 14, TPH-g had dropped below the detection limit (100 µg/L). In the case of BTEX, all analytes dropped below the detection limits by day 14. Except for the anomaly in TPH-g, at day 7, Case 2 worked well with respect to the hydrocarbons.

DO decreased from 5.88 mg/L, at the initial T = 0, to 3.82 mg/L, at T = 21. Oxidation-reduction potential (ORP) started at +14.4 mV in the control sample and increased to +266 mV.

All the metals analyzed—arsenic, chromium, manganese, lead, and selenium—increased in concentration.

### CASE 3

Sample Number EGC-3

Eagle Gas  
4301 San Leandro St.  
Oakland, CA 94601  
LOP StID# 2118  
USTCF Claim No. 014551  
Clearwater Group Project # ZP046

### Chemistry: 20% sodium hydroxide and 25% sodium persulfate

Forty milliliters (40 mL) of a 20% NaOH solution were added to the soil slurry and swirled for 15 seconds. Then, 100 mL of a 25% (250 g/L) aqueous sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ ) solution, formula mass = 238.1, were added to the mixture, and the flask was swirled for 15 seconds.

- 200 grams soil
- 500 mL groundwater
- 40 mL 20% NaOH (estimated pH after addition = 13.5)
- 100 mL 25% aqueous  $\text{Na}_2\text{S}_2\text{O}_8$

#### NOTES:

mL milliliters

$\mu\text{g/L}$  micrograms per liter, approximately parts per billion (ppb)

mg/L milligrams per liter, approximately parts per million (ppm)

Oxidizing Agent Remaining After Reaction				
	T = 1 Day	T = 7 Days	T = 14 Days	T = 21 Days
$\text{H}_2\text{O}_2$ (%)	NA	NA	NA	NA
$\text{Na}_2\text{S}_2\text{O}_8$ (%)	7.1	0.29	0.29	0

NA = the hydrogen peroxide was not present in Case 3.

### CASE 3 RESULTS

Case 3 results are summarized in **Tables 3A-3C** and **Charts 3A-3B**. In Case 3, the TPH-g level started at 12,200  $\mu\text{g/L}$ , and decreased to 9,800  $\mu\text{g/L}$  on day 1, a 20% decrease. After 7 days, TPH-g was lowered to 5,830  $\mu\text{g/L}$ , a 52% decrease, and after 14 days, it was lowered to 482  $\mu\text{g/L}$ , a 96% decrease. On day 21, TPH-g fell below the detection limit (100  $\mu\text{g/L}$ ). TPH-d, on the other hand, dropped below the detection limits (100  $\mu\text{g/L}$ ) on day 7 and remained under the detection limits for the rest of the analysis. Looking at BTEX, we can see that none of the analytes were left above non-detect levels. From this we can deduce that the Case 3 chemicals worked well for hydrocarbons.

DO decreased slightly from 5.88 mg/L, at the initial  $T = 0$ , to 3.85 mg/L, at  $T = 21$ . Oxidation-reduction potential (ORP) started at 14.4 mV in the control sample and decreased to -292 mV.

Case 3 showed an encouraging trend with respect to the hydrocarbons. In the case of metal mobilization, the levels of arsenic, barium, chromium, lead, and selenium all increased.

## SUMMARY OF RESULTS

### Comparison of Cases 1 through 3

**Table 7** shows a comparison of the concentrations of constituents of concern for all cases tested. By looking at the percent reduction after each test we can better evaluate which set of chemicals reduced hydrocarbons most effectively.

- Of the three case studies performed, Case 1 removed the hydrocarbons from the soil the fastest.
- Case 2 and Case 3 showed a nearly equivalent decrease in hydrocarbons over time.
- Case 1 had the highest increase in metals, and the least reduction in MTBE and TBA.
- In Case 1 and Case 2 the soil and groundwater after treatment were acidic. In Case 3, the soil and groundwater after treatment were highly alkaline.
- In all three cases, the treatments caused significant levels of heavy metals (arsenic, chromium, lead, selenium) to be released from the soil into the water in the treatment chamber. Levels of manganese also increased in Cases 1 and 2.

## RECOMMENDATIONS

- Chemical oxidation could be used for source zone treatment at the site; however, the release of heavy metals into groundwater must be carefully evaluated.
- The Case 3 chemical solution of 25% sodium persulfate and 20% sodium hydroxide is the best choice for treating the groundwater. The results indicate that Case 3 chemistry is the best set of chemicals to be used for source remediation onsite because it reduces the hydrocarbons the most completely of the three cases studied. All the major chemical targets—TPH-g, TPH-d, MTBE, and TBA—were all completely mineralized within 21 treatment days. Of the three cases, Case 3 released the lowest levels of heavy metals. Nonetheless, the levels of soluble heavy metals greatly exceeded regulatory levels.
- In-Situ Treatment of Soil and Groundwater.  
Issues related to the release of heavy metals from the soil into groundwater are serious. Actions which cause an increase in the concentrations of heavy metals, such as arsenic, chromium, lead, and selenium, in groundwater must be carefully evaluated, before any in-situ treatments are seriously considered.
- Above-Ground Treatment of Extracted Groundwater.  
For above-ground treatment of pumped groundwater, chemical oxidation using Case 3 chemistry can be used. The release of heavy metals from soil is not an issue in a pumped groundwater system.

- Additional evaluation of both the remedial options described above and other options will be ongoing as the various possible remedial actions are being considered.

## CERTIFICATION

This report was prepared under the supervision of a Professional Geologist registered in the State of California. All statements, conclusions, and recommendations are based solely upon published results from previous consultants, field observations by EBS staff, and laboratory analyses performed by a State-of-California-certified laboratory related to the work performed by EBS. Information and interpretation presented herein are for the sole use of the client and regulatory agency. A third party should not rely upon the information and interpretation contained in this document.

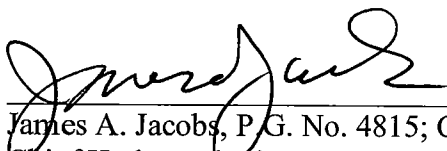
The service provided by EBS has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of this profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

## LICENSED PROFESSIONALS

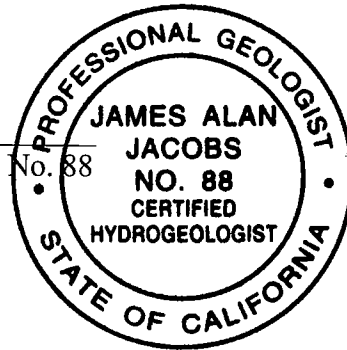
In-house licensed professionals direct all projects. These professionals, including geologists or engineers, shall be guided by the highest standards of ethics, honesty, integrity, fairness, personal honor, and professional conduct. To the fullest extent possible, the licensed professional shall protect the public health and welfare and property in carrying out professional duties. In the course of normal business, recommendations by the in-house professional may include the use of equipment, services, or products in which the Company has an interest. Therefore, the Company is making full disclosure of potential or perceived conflicts of interest to all parties.

Sincerely,

**Environmental Bio-Systems, Inc.**



James A. Jacobs, P.G. No. 4815; CHG No. 88  
Chief Hydrogeologist



## REFERENCES

### WEB SITES:

FMC: [www.fmcchemicals.com](http://www.fmcchemicals.com)

### ARTICLES AND BOOKS:

Arnarante, D., 2000, In-situ chemical oxidation, *Pollution Engineering*, February, p. 4042.

Barb, W.G., Buxendale, J.H., and Hargrave, K.R., 1950, Reactions of ferrous and ferric ions with hydrogen peroxide. Part 1: The ferrous iron reaction, *Journal Chem. Soc.*, Vol. 121; p. 462.

Fenton, H.J.H., 1894, *Journal Chem. Soc.*, Vol. 65; 899.

Fenton, H.J.H., 1893, *Proc. Chem. Soc.*, Vol. 9; 113.

Jacobs, J., 2001, In-situ liquid delivery systems for chemical oxidation, bioremediation and metals stabilization, Association for Environmental Health and Sciences, 11th Annual West Coast Conf. on Contaminated Soils, *Sediments and Water*, March 21, 2001, San Diego, California, Abstracts.

Jacobs, J., Guertin, J., and Herron, C., 2000, *MTBE: Effects on Soil and Groundwater Resources*, CRC Press, Boca Raton, FL.

Jacobs, J.A., and Testa, S.M., 2003, Design considerations for in-situ chemical oxidation using high pressure jetting technologies, *Soil Sediment and Water*, March/April, AEHS, p. 51-60.

Kelly, K.L., Marley, M.C., and Sperry, K.L., 2002, In-situ chemical oxidation of MTBE, *Contaminated Soil Sediment and Water*, July/August 2002, p. 36-40.

Leethem, J.T., 2002, In-situ chemical oxidation of MTBE: A case study of the successful remediation of a large gasoline release, *Contaminated Soil Sediment and Water*, July/August 2002, p. 70-75.

Liang, C., Bruell, C.J., Marley, M.C., and Sperry, K.L., 2004, Persulfate oxidation for in-situ remediation of TCE, activated by chelated ferrous ion, *Chemosphere*, June, Vol. 55; No. 9, p. 1225-1233.

Suthersan, S.S., 2002, *Natural and Enhanced Remediation Systems*, CRC Press / Lewis Publishers, Boca Raton, FL, 419 p.

Watts, R.J., 1992, Hydrogen peroxide for physiochemically degrading petroleum-contaminated soils, *Remediation*, Vol. 2; p. 413.

Watts, R.J., Smith, B.R., and Miller, G.C., 1991, Treatment of octachlorodibenzo-p-dioxin (OCDD) in surface soils using catalyzed hydrogen peroxide. *Chemosphere*, Vol. 23; p. 949-956.

Watts, R.J. and Stanton, P.C., 1994, *Process Conditions for the Total Oxidation of Hydrocarbons in the Catalyzed Hydrogen Peroxide Treatment of Contaminated Soils*. WA-RD, Vol. 337.1; Washington State Dept. of Transportation, Olympia, Washington.

Watts, R.J., Udell, M.D., Rauch, P.A., and Leung, S.W., 1990, Treatment of pentachlorophenol contaminated soils using Fenton's reagent. *Hazardous Waste Hazardous Materials*, Vol. 7; p. 335-345.



# ATTACHMENT B

**TABLE 1 - CHEMICAL OXIDATION: OXIDIZING AGENTS**

<b>Oxidants used for chemical oxidation processes</b>	
<b>Liquids</b>	<b>Solids</b>
Hydrogen peroxide (hydroxyl radical) (liquid)	Note: solid peroxygens are soluble in water
Peracetic acid (liquid)	<b>Sodium persulfate (solid)</b>
	Sodium permanganate (solid)
	Calcium peroxide (solid)
<b>Gas-phase</b>	Sodium peroxide (solid)
Ozone (gas)	Sodium perborate (solid)
	Sodium percarbonate (solid)
	Magnesium peroxide (solid)
	Potassium permanganate (solid)

**TABLE 2 - COMPARATIVE RELATIVE STRENGTHS OF VARIOUS OXIDANTS**

Species	Chemical Formula	Standard REDOX Potential Eo (Volts)	Oxidants commonly used in chemical oxidation remediation
Fluorine	F <sub>2</sub>	3.0	No
Hydroxyl Radical	HO <sup>•</sup>	2.8	Yes – with acid or iron catalyst
<b>Sulfate Radical</b>	<b>SO<sub>4</sub><sup>•</sup></b>	<b>2.6</b>	<b>Yes – injected (persulfate)</b>
Oxygen Radical	<sup>•</sup> O <sub>2</sub> (Superoxide)	2.4	No
Ozone	O <sub>3</sub>	2.2	Yes - sparged
<b>Persulfate Anion</b>	<b>S<sub>2</sub>O<sub>8</sub><sup>2-</sup></b>	<b>2.1</b>	<b>Yes - injected</b>
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	1.8	Yes – see Hydroxyl Radical
Potassium Permanganate	KMnO <sub>4</sub>	1.7	Yes – mixed with water and injected
Hydrochlorous Acid	HOCl	1.5	No
Chlorine Dioxide	ClO <sub>2</sub>	1.5	No
Chlorine	Cl <sub>2</sub>	1.4	No
Oxygen	O <sub>2</sub>	1.2	No
Bromine	Br <sub>2</sub>	1.1	No
Iodine	I <sub>2</sub>	0.8	No
<b>ACTIVATED OXYGEN SPECIES</b> (Suthersan, 2002)	Formed by action of light on natural organic matter, peroxides, or various inorganic catalysts		
Singlet Oxygen	<sup>1</sup> O <sub>2</sub>		
Protonated Superoxide	HO <sub>2</sub> <sup>•</sup>		
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>		
Hydroperoxide anion	H <sub>2</sub> O <sub>2</sub> /HO <sub>2</sub> <sup>-</sup>		
Hydroxyl Radical	HO <sup>•</sup>		
Ozone	O <sub>3</sub>		
Note: Fenton's Reagent	Hydrogen peroxide with an iron catalyst forms the hydroxyl radical		

**TABLE 3- SUMMARY OF FIELD AND LABORATORY ANALYSIS**

<u>ANALYSIS</u>	<u>METER/LAB ANALYSIS</u>	<u>STAGE</u>	<u>METHOD*</u>	<u>COMMENTS</u>
TPH-g, BTEX, MTBE, DIPE, ETBE, TAME, TBA	Laboratory Analysis	Before, During, and After (soil and groundwater)	EPA 8260B;	4 hours, 1, 7, and 14 days
TPH-d	Laboratory Analysis	Before, During, and After (groundwater)	EPA 8260B	4 hours, 1, 7, and 14 days
Dissolved Oxygen (DO)	Meter	Before, During, and After (groundwater)	YSI Field meter	
Oxidation-reduction potential (ORP)	Meter	Before, During, and After (groundwater)	YSI Field meter	
pH/temp/conductivity	Meter	Before, During, and After (groundwater)	YSI Field meter	
Iron(II) (soluble), Total Iron (soluble) (Iron[III] is determined by subtracting total iron from iron[II].)	Meter/Kit	Before, During, and After (groundwater)	Hach Kit	Total (solid) iron before and after for tests using an iron solution.
Alkalinity	Lab Analysis	Before; (groundwater)	Standard method	
Total organic carbon (TOC)	Lab Analysis	Before; (groundwater)		
Nitrate and Sulfate	Lab Analysis	Before; (groundwater)	Method 300.0	
Arsenic, Lead, Cadmium, Chromium, Chromium(VI), Selenium, Barium, Manganese, Chloride, and Bromate	Lab Analysis	Before, After (groundwater and soil)	Metals total (solid) and dissolved; Methods 200.7/200.8	Nitric acid preservative; filter water sample
Mercury	Lab Analysis	Before, After (groundwater and soil)	Dissolved Mercury, total mercury (solid) Method 200.8	Nitric acid preservative; filter water sample
Biological Oxygen Demand (BOD <sub>5</sub> )	Lab Analysis	Before; (groundwater)	SM5210B or EPA 405.1	Unpreserved
Chemical Oxygen Demand (COD)	Lab Analysis	Before; (groundwater)	SM5220D	Sulfuric Acid
Solid Oxidant Demand, by persulfate (persulfateSOD)	Lab Analysis	Before; (soil)	FMC method	Natural Oxidant Demand
Soil moisture content	Lab Analysis	Before; (soil)	Standard Method	

General Mineral	Lab Analysis	Before; (soil)	Standard Method	
Dissolved CO <sub>2</sub>	Lab Analysis	Before; (soil)	Standard Method	
Lead Scavengers: 1,2-Dibromoethane (1,2-EDB) and 1,2-Dichloroethane (1,2-DCA)	Lab Analysis	Before, During, and After (soil and groundwater)	EPA 8260B	4 hours, 1, 7, and 14 days

TABLE 4A; CASE 1; ORGANICS  
 ORGANIC COMPOUNDS ANALYSIS DATA  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment

Clearwater Number	Sampling Date	B (µg/L)	T (µg/L)	E (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	Methyl-t-butyl ether (MTBE) (µg/L)	Diisopropyl ether (DIPE) (µg/L)	Ethyl-t-butyl ether (ETBE) (µg/L)	Tert-amyl methyl ether (TAME) (µg/L)	Tert-Butanol (TBA) (µg/L)	1,2-DCA (µg/L)	1,2-EDB (µg/L)	
<b>GROUNDWATER</b>																
Eagle Gas GW Control; T = 0	10/12/2007	84.2	2.47	3.27	7.26	3.21	12,200	10,100	4,260	<0.500	<0.500	217	192,000	<1.00	<0.500	
Eagle Gas GW Case 1; T = 1 Day	10/13/2007	<0.500	<0.500	0.660	1.67	2.29	4,610	8,960	1,890	<0.500	<0.500	4.82	148,000	<1.00	<0.500	
Eagle Gas GW Case 1; T = 7 Days	10/19/2007	<0.500	<0.500	<0.500	<1.0	2.91	1,050	<100	7.17	<0.500	<0.500	<0.500	27,200	<1.00	<0.500	
Eagle Gas GW Case 1; T = 14 Days	10/26/2007	<0.500	<0.500	<0.500	<1.00	<1.00	<100	<100	65.2	<0.500	<0.500	<0.500	25,500	<1.00	<0.500	
Eagle Gas GW Case 1; T = 21 Days	11/2/2007	<0.500	<0.500	<0.500	<1.00	<1.00	<100	<100	28.1	<0.500	<0.500	<0.500	15,300	<1.0	<0.500	
<b>SOIL</b>																
Clearwater Number	Sampling Date	B (µg/kg)	T (µg/kg)	E (µg/kg)	m,p-Xylene (µg/kg)	o-Xylene (µg/kg)	TPH-g (µg/kg)	TPH-d (µg/kg)	Methyl-t-butyl ether (MTBE) (µg/kg)	Diisopropyl ether (DIPE) (µg/kg)	Ethyl-t-butyl ether (ETBE) (µg/kg)	Tert-amyl methyl ether (TAME) (µg/kg)	Tert-Butanol (µg/kg)	1,2-DCA µg/kg	1,2-EDB µg/kg	Moisture (% by weight)
Eagle Gas Soil Control; T = 0	10/12/2007	<5.00	<5.00	<5.00	<5.00	<5.00	3,520	10,200	1,210	<5.00	<5.00	<5.00	34,100	<5.00	<5.00	19.2
Eagle Gas Soil Case 1; T = 21 days	11/2/2007	<5.00	<5.00	<5.00	<5.00	<5.00	<200	<1000	7.41	<5.00	<5.00	<5.00	5,610	<5.00	<5.00	--

**Notes:**

- TPH-g Total petroleum hydrocarbons as gasoline by EPA Method 5030/8015M
- TPH-d Total petroleum hydrocarbons as diesel by EPA Method 3510/8015M
- BTEX Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8260B
- Oxygenates MTBE, DIPE, ETBE, TAME, TBA by EPA Method 8260B
- 1,2-DCA 1,2-Dichloroethane by EPA Method 8260B
- 1,2-EDB 1,2-Dibromoethane by EPA Method 8260B
- µg/L Micrograms per liter (liquid)
- µg/kg Micrograms per kilogram (soil)
- mg/kg Milligrams per kilogram (soil)
- Not measured or analyzed

TABLE 4B; CASE 1; METALS  
 METAL ANALYSIS DATA  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment

Sample Number	Sampling Date	Arsenic (µg/L)	Barium (µg/L)	Bromate (µg/L)	Cadmium (µg/L)	Chloride (µg/L)	Chromium (µg/L)	Chromium (VI) (µg/L)	Mercury (µg/L)	Manganese (µg/L)	Lead (µg/L)	Selenium (µg/L)
<b>GROUNDWATER</b>												
Eagle Gas GW Control; T = 0	10/12/2007	8.3	350	--	<1.0	16,500	78	<2.00	1.1	1230	<5.0	<5.0
Eagle Gas GW Case 1; T = 21 Days	11/2/2007	1,090	88.7	<100	<10.0	--	1,840	<2.00	<1.0	101,000	81.1	<50.0
<b>SOIL</b>												
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Eagle Gas Soil Control; T=0	10/12/2007	<0.500	119	--	0.104	--	10.3	<0.050 (mg/kg)	0.348	390	4.51	<0.500
Eagle Gas Soil Case 1; T = 21 days	11/2/2007	10.8	90.2	--	<0.100	--	18.9	<2.00 (µg/L)	0.345	110	2.61	<0.500

**Notes:**

- µg/L                      Micrograms per liter (liquid)
- mg/L                      Milligrams per liter (liquid)
- mg/kg                     Milligrams per kilogram (soil)
- Not measured or analyzed

TABLE 4C; CASE 1; MISC.  
 INDIRECT GEOCHEMICAL INDICATORS  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment										
WELL	DATE	Alkalinity Total (CaCO <sub>3</sub> ) (mg/L)	Hydroxide Alkalinity (mg/L)	Bicarbonate Alkalinity (CaCO <sub>3</sub> ) (mg/L)	Carbonate Alkalinity (CaCO <sub>3</sub> ) (mg/L)	Biochemical Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	Calcium (mg/L)	Chemical Oxygen Demand (COD) (mg/L)	Specific Conductance (EC) (umhos/cm)	Fluoride (mg/L)
Eagle Gas Case 0 Initial groundwater	10/12/2007	290	<1.00	707	<1.00	1,760	76	2,560	1,710.00	<1.00
WELL	DATE	Nitrate + Nitrate as N (mg/L)	Total Hardness (as CaCO <sub>3</sub> ) (mg/L)	Total Cations (meq/L)	Total Anions (meq/L)	Potassium (mg/L)	Methylene Blue Active Substances (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Nitrate (as NO <sub>3</sub> ) (mg/L)
Eagle Gas Case 0 Initial groundwater	10/12/2007	<0.400	670	15.0	12.1	4.1	<0.0500	120	39	<1.00
WELL	DATE	Nitrate (as N) (mg/L)	Nitrate (as NO <sub>2</sub> ) (mg/L)	Nitrite (as N) (mg/L)	pH Field Test	Total Dissolved Solids (mg/L)	Sulfate (as SO <sub>4</sub> ) (mg/L)	Total Heterotrophs (cfu/mL) microbes	Target Hydrocarbons Detected	Specific Hydrocarbon Degradors (cfu/mL) microbes
Eagle Gas Case 0 Initial groundwater	7/19/2007	<0.200	<0.500	<0.200	8.16	1170	3.50	--	Gasoline/Diesel	--

**NOTES:**

mg/L: milligrams per liter

µg/L: micrograms per liter

<0.10: Not detected above the noted laboratory practical quantitation limit

NA: Not analyzed

cfu: colony-forming unit

mS/cm: milli-Siemens per centimeter

mV: millivolt

TPH-d: Total petroleum hydrocarbons as diesel

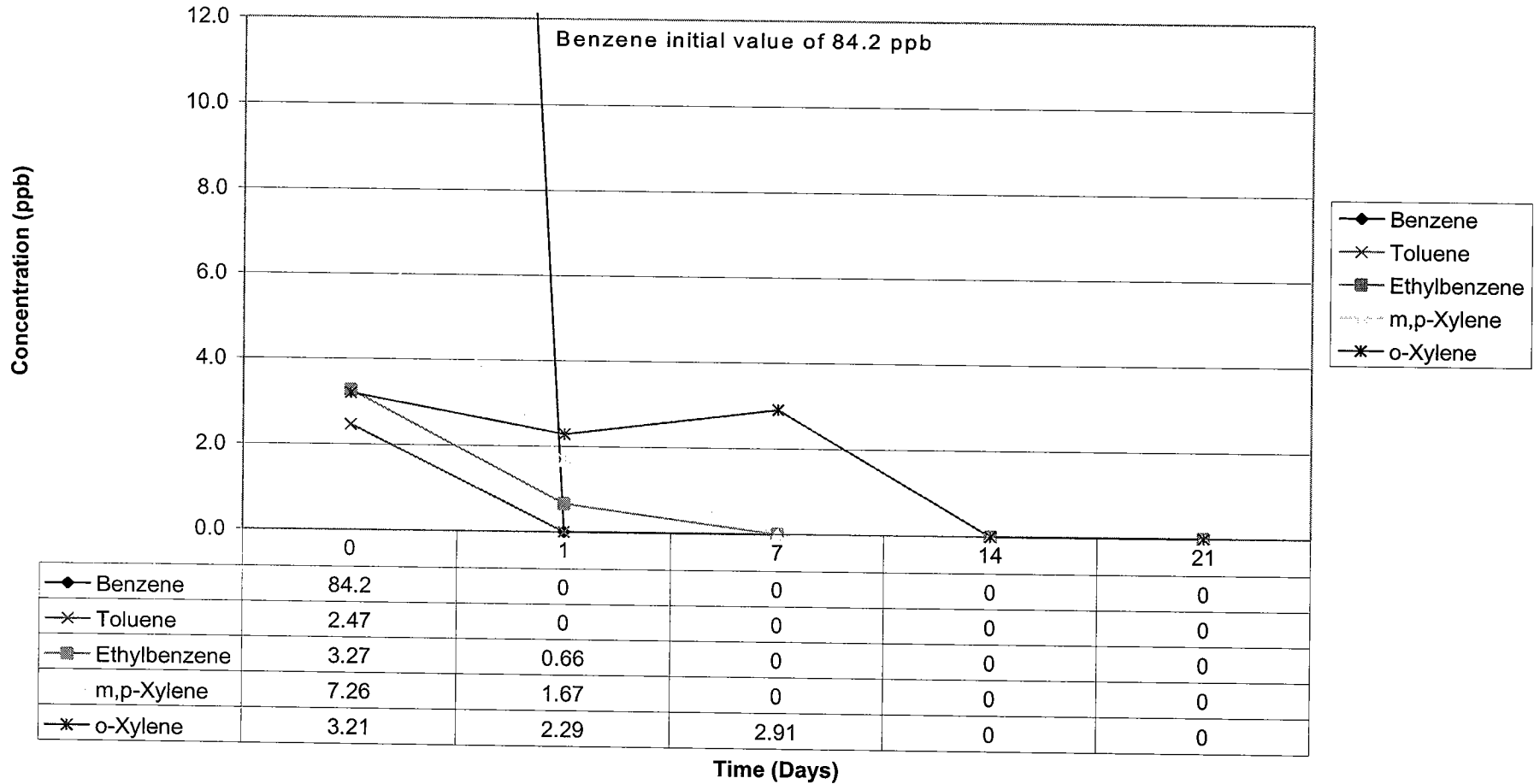
MTBE: methyl tertiary butyl ether

pH: negative logarithm of the hydronium (H<sub>3</sub>O<sup>+</sup>) ion concentration

BOD<sub>5</sub>: Biological Oxygen Demand, 5-day test



**Chart 4A: Concentrations BTEX vs. Time**  
**Case 1: 25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment**  
**Eagle Gas Station**  
**4301 San Leandro St., Oakland, CA 94601**



**Chart 4B: Concentrations of TPH-g, TPH-d, & MTBE vs. Time**  
**Case 1: 25% sodium persulfate and 15% hydrogen peroxide with no pH adjustment**  
**Eagle Gas Station**  
**4301 San Leandro St., Oakland, CA 94601**

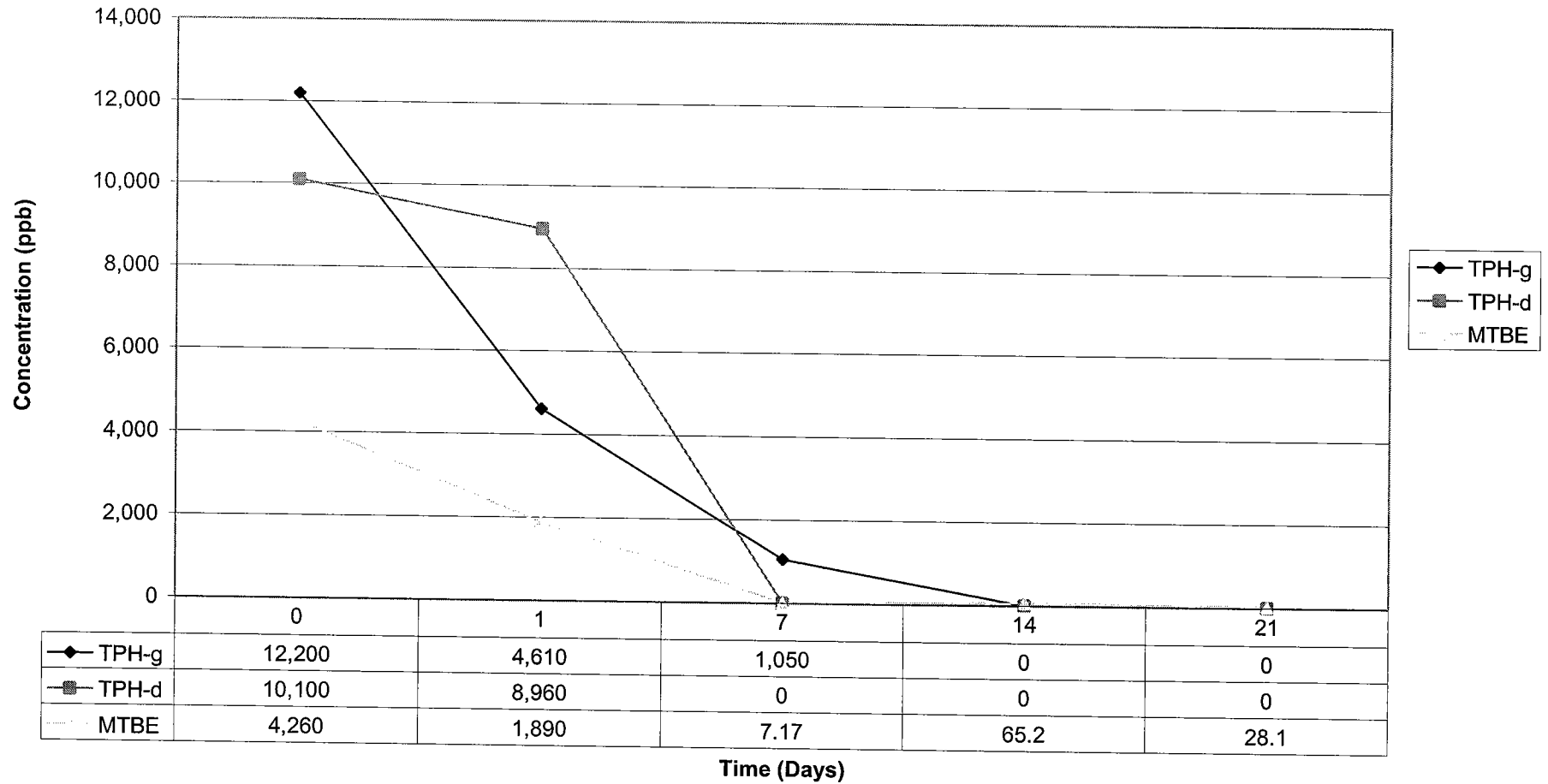


TABLE 5A; CASE 2; ORGANICS  
 ORGANIC COMPOUNDS ANALYSIS DATA  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 25% sodium persulfate and 3% iron (III) sodium EDTA with no pH adjustment

Clearwater Number	Sampling Date	B (µg/L)	T (µg/L)	E (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	Methyl-t-butyl ether (MTBE) (µg/L)	Diisopropyl ether (DIPE) (µg/L)	Ethyl-t-butyl ether (ETBE) (µg/L)	Tert-amyl methyl ether (TAME) (µg/L)	Tert-Butanol (TBA) (µg/L)	1,2-DCA (µg/L)	1,2-EDB (µg/L)	
<b>GROUNDWATER</b>																
Eagle Gas GW Control; T = 0	10/12/2007	84.2	2.47	3.27	7.26	3.21	12,200	10,100	4,260	<0.500	<0.500	217	192,000	<1.00	<0.500	
Eagle Gas GW Case 2; T = 1 Day	10/13/2007	7.50	<0.500	<0.500	1.07	2.33	9,460	9,280	8000*	<0.500	<0.500	196	304,000	<1.00	<0.500	
Eagle Gas GW Case 2; T = 7 Days	10/19/2007	<0.500	<0.500	<0.500	<1.00	2.18	10,900	1,200	3,310	<0.500	<0.500	<0.500	252,000	<1.00	<0.500	
Eagle Gas GW Case 2; T = 14 Days	10/26/2007	<0.500	<0.500	<0.500	<1.00	<1.00	1,390	<100	89.4	<0.500	<0.500	<0.500	89,800	6.98	<0.500	
Eagle Gas GW Case 2; T = 21 Days	11/2/2007	<0.500	<0.500	<0.500	<1.00	<1.00	<100	<100	7.47	<0.500	<0.500	<0.500	5,370	<1.00	<0.500	
<b>SOIL</b>																
Clearwater Number	Sampling Date	B (µg/kg)	T (µg/kg)	E (µg/kg)	m,p-Xylene (µg/kg)	o-Xylene (µg/kg)	TPH-g (µg/kg)	TPH-d (mg/kg)	Methyl-t-butyl ether (MTBE) (µg/kg)	Diisopropyl ether (DIPE) (µg/kg)	Ethyl-t-butyl ether (ETBE) (µg/kg)	Tert-amyl methyl ether (TAME) (µg/kg)	Tert-Butanol (µg/kg)	1,2-DCA µg/kg	1,2-EDB µg/kg	Moisture (% by weight)
Eagle Gas Soil Control; T = 0	10/12/2007	<5.00	<5.00	<5.00	<5.00	<5.00	3,520	10.2	1,210	<5.00	<5.00	<5.00	34,100	<5.00	<5.00	19.2
Eagle Gas Soil Case 2; T = 21 days	11/2/2007	<5.00	<5.00	<5.00	<5.00	<5.00	<200	<1.00	<5.00	<5.00	<5.00	<5.00	1,150	<5.00	<5.00	

**Notes:**

- TPH-g Total petroleum hydrocarbons as gasoline by EPA Method 5030/8015M
- TPH-d Total petroleum hydrocarbons as diesel by EPA Method 3510/8015M
- BTEX Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8260B
- Oxygenates MTBE, DIPE, ETBE, TAME, TBA by EPA Method 8260B
- 1,2-DCA 1,2-Dichloroethane by EPA Method 8260B
- 1,2-EDB 1,2-Dibromoethane by EPA Method 8260B
- µg/L Micrograms per liter (liquid)
- µg/kg Micrograms per kilogram (soil)
- mg/kg Milligrams per kilogram (soil)
- Not measured or analyzed
- \* Poor homogeneity of sample suspected

TABLE 5B; CASE 2; METALS  
 METAL ANALYSIS DATA  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 25% sodium persulfate and 3% iron (III) sodium EDTA with no pH adjustment

Sample Number	Sampling Date	Arsenic (µg/L)	Barium (µg/L)	Bromate (µg/L)	Cadmium (µg/L)	Chloride (mg/L)	Chromium (µg/L)	Chromium (VI) (µg/L)	Mercury (µg/L)	Manganese (µg/L)	Lead (µg/L)	Selenium (µg/L)
<b>GROUNDWATER</b>												
Eagle Gas GW Control; T = 0	10/12/2007	8.3	350	--	<1.0	16.5	78	<2.00	1.1	1230	<5.0	<5.0
Eagle Gas GW Case 2; T = 21 Days	11/2/2007	538	111	<100	<10.0	--	383	<2.00	<1.0	19,500	108	64.2
<b>SOIL</b>												
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Eagle Gas Soil Control; T=0	10/12/2007	<0.500	119	--	0.104	--	10.3	<0.050 (mg/kg)	0.348	390	4.51	<0.500
Eagle Gas Soil Case 2; T = 21 days	11/2/2007	19.8	156	--	<0.100	--	31.8	<2.00 (µg/L)	0.262	270	5.06	<0.500

**Notes:**

- µg/L                      Micrograms per liter (liquid)
- mg/L                      Milligrams per liter (liquid)
- mg/kg                     Milligrams per kilogram (soil)
- Not measured or analyzed

TABLE 5C; CASE 2; MISC.  
INDIRECT GEOCHEMICAL INDICATORS  
EAGLE GAS STATION  
4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
EBS # CWG ZP046D

Chemistry: 25% sodium persulfate and 3% iron (III) sodium EDTA with no pH adjustment

WELL	DATE	Alkalinity Total (CaCO <sub>3</sub> ) (mg/L)	Hydroxide Alkalinity (mg/L)	Bicarbonate Alkalinity (CaCO <sub>3</sub> ) (mg/L)	Carbonate Alkalinity (CaCO <sub>3</sub> ) (mg/L)	Biochemical Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	Calcium (mg/L)	Chemical Oxygen Demand (COD) (mg/L)	Specific Conductance (EC) (umhos/cm)	Fluoride (mg/L)
Eagle Gas Case 0 Initial groundwater	10/12/2007	290	<1.00	707	<1.00	1,760	76	2,560	1,710.00	<1.00

WELL	DATE	Nitrate + Nitrate as N (mg/L)	Total Hardness (as CaCO <sub>3</sub> ) (mg/L)	Total Cations (meq/L)	Total Anions (meq/L)	Potassium (mg/L)	Methylene Blue Active Substances (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Nitrate (as NO <sub>3</sub> ) (mg/L)
Eagle Gas Case 0 Initial groundwater	10/12/2007	<0.400	670	15.0	12.1	4.1	<0.0500	120	39	<1.00

WELL	DATE	Nitrate (as N) (mg/L)	Nitrate (as NO <sub>2</sub> ) (mg/L)	Nitrite (as N) (mg/L)	pH Field Test	Total Dissolved Solids (mg/L)	Sulfate (as SO <sub>4</sub> ) (mg/L)	Total Heterotrophs (cfu/mL) microbes	Target Hydrocarbons Detected	Specific Hydrocarbon Degraders (cfu/mL) microbes
Eagle Gas Case 0 Initial groundwater	7/19/2007	<0.200	<0.500	<0.200	8.16	1170	3.50	--	Gasoline/Diesel	--

NOTES:

mg/L: milligrams per liter

µg/L: micrograms per liter

<0.10: Not detected above the noted laboratory practical quantitation limit

NA: Not analyzed

cfu: colony-forming unit

mS/cm: milli-Siemens per centimeter

mV: millivolt

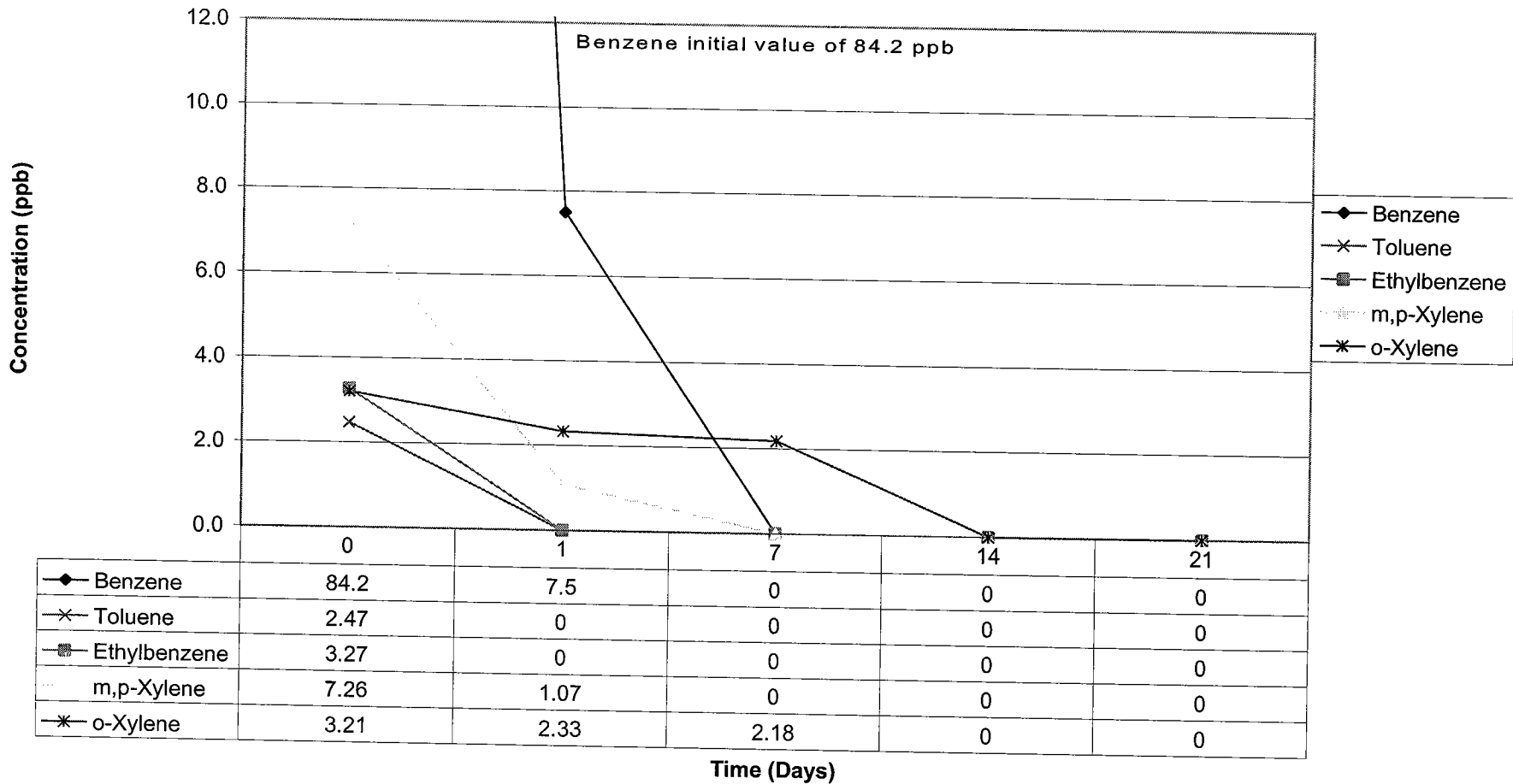
TPH-d: Total petroleum hydrocarbons as diesel

MTBE: methyl tertiary butyl ether

pH: negative logarithm of the hydronium (H<sub>3</sub>O<sup>+</sup>) ion concentration

BOD<sub>5</sub>: Biological Oxygen Demand, 5-day test

**Chart 5A: Concentrations of BTEX vs. Time**  
**Case 2: 25% sodium persulfate and 3% iron (III) sodium EDTA with no pH adjustment**  
**Eagle Gas Station**  
**4301 San Leandro St., Oakland, CA 94601**



**Chart 5B: Concentrations of TPH-g, TPH-d, & MTBE vs. Time**  
**Case 2: 25% sodium persulfate and 3% iron (III) sodium EDTA with no pH adjustment**  
**Eagle Gas Station**  
**4301 San Leandro St., Oakland, CA 94601**

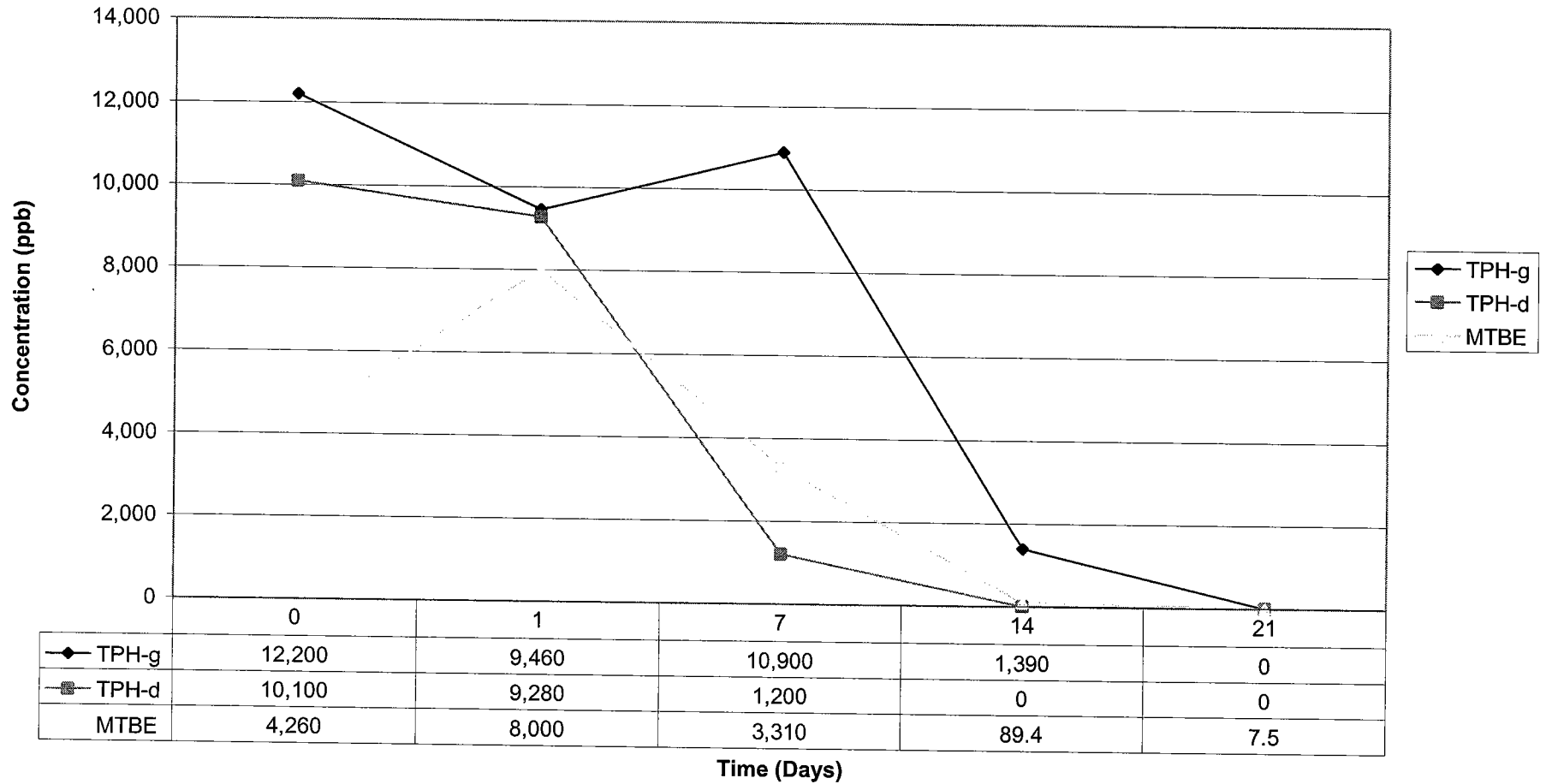


TABLE 6A; CASE 3; ORGANICS  
 ORGANIC COMPOUNDS ANALYSIS DATA  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 20% sodium hydroxide and 25% sodium persulfate

Clearwater Number	Sampling Date	B (µg/L)	T (µg/L)	E (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	Methyl-t-butyl ether (MTBE) (µg/L)	Diisopropyl ether (DIPE) (µg/L)	Ethyl-t-butyl ether (ETBE) (µg/L)	Tert-amyl methyl ether (TAME) (µg/L)	Tert-Butanol (TBA) (µg/L)	1,2-DCA (µg/L)	1,2-EDB (µg/L)	
<b>GROUNDWATER</b>																
Eagle Gas GW Control; T = 0	10/12/2007	84.2	2.47	3.27	7.26	3.21	12,200	10,100	4,260	<0.500	<0.500	217	192,000	<1.00	<0.500	
Eagle Gas GW Case 3; T = 1 Day	10/13/2007	40.2	0.590	<0.500	<1.00	2.27	9,800	8,920	6,390*	<0.500	<0.500	212	230,000	<1.00	<0.500	
Eagle Gas GW Case 3; T = 7 Days	10/19/2007	4.22	<0.500	<0.500	<1.00	2.14	5,830	<100	1,410	<0.500	<0.500	<0.500	131,000	<1.00	<0.500	
Eagle Gas GW Case 3; T = 14 Days	10/26/2007	<0.500	<0.500	<0.500	<1.00	<1.00	482	<100	20.4	<0.500	<0.500	<0.500	10,700	<1.00	<0.500	
Eagle Gas GW Case 3; T = 21 Days	11/2/2007	<0.500	<0.500	<0.500	<1.00	<1.00	<100	<100	5.94	<0.500	<0.500	<0.500	1,420	<1.00	<0.500	
<b>SOIL</b>																
Clearwater Number	Sampling Date	B (µg/kg)	T (µg/kg)	E (µg/kg)	m,p-Xylene (µg/kg)	o-Xylene (µg/kg)	TPH-g (µg/kg)	TPH-d (mg/kg)	Methyl-t-butyl ether (MTBE) (µg/kg)	Diisopropyl ether (DIPE) (µg/kg)	Ethyl-t-butyl ether (ETBE) (µg/kg)	Tert-amyl methyl ether (TAME) (µg/kg)	Tert-Butanol (µg/kg)	1,2-DCA µg/kg	1,2-EDB µg/kg	Moisture (% by weight)
Eagle Gas Soil Control; T = 0	10/12/2007	<5.00	<5.00	<5.00	<5.00	<5.00	3,520	10.2	1,210	<5.00	<5.00	<5.00	34,100	<5.00	<5.00	19.2
Eagle Gas Soil Case 3; T = 21 days	11/2/2007	<5.00	<5.00	<5.00	<5.00	<5.00	<200	<1.00	<5.00	<5.00	<5.00	<5.00	310	<5.00	<5.00	

**Notes:**

- TPH-g Total petroleum hydrocarbons as gasoline by EPA Method 5030/8015M
- TPH-d Total petroleum hydrocarbons as diesel by EPA Method 3510/8015M
- BTEX Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8260B
- Oxygenates MTBE, DIPE, ETBE, TAME, TBA by EPA Method 8260B
- 1,2-DCA 1,2-Dichloroethane by EPA Method 8260B
- 1,2-EDB 1,2-Dibromoethane by EPA Method 8260B
- µg/L Micrograms per liter (liquid)
- µg/kg Micrograms per kilogram (soil)
- mg/kg Milligrams per kilogram (soil)
- Not measured or analyzed
- \* Poor homogeneity of sample suspected



TABLE 6B; CASE 3; METALS  
 METAL ANALYSIS DATA  
 EAGLE GAS STATION  
 4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
 EBS # CWG ZP046D

Chemistry: 20% sodium hydroxide and 25% sodium persulfate

Sample Number	Sampling Date	Arsenic (µg/L)	Barium (µg/L)	Bromate (µg/L)	Cadmium (µg/L)	Chloride (mg/L)	Chromium (µg/L)	Chromium (VI) (µg/L)	Mercury (µg/L)	Manganese (µg/L)	Lead (µg/L)	Selenium (µg/L)
<b>GROUNDWATER</b>												
Eagle Gas GW Control; T = 0	10/12/2007	8.3	350	--	<1.0	16.5	78	<2.00	1.1	1230	<5.0	<5.0
Eagle Gas GW Case 3; T = 21 Days	11/2/2007	415	390	<100	<10.0	--	1,050	<2.00	<1.0	<20.0	92.9	70.1
<b>SOIL</b>												
Eagle Gas Soil Control; T=0	10/12/2007	<0.500	119	--	0.104	--	10.3 (mg/kg)	<0.050	0.348	390	4.51	<0.500
Eagle Gas Soil Case 3; T = 21 days	11/2/2007	17.8	118	--	<0.100	--	26.1 (µg/L)	<2.00	0.261	270	4.07	<0.500

**Notes:**

- µg/L                      Micrograms per liter (liquid)
- mg/L                      Milligrams per liter (liquid)
- mg/kg                     Milligrams per kilogram (soil)
- Not measured or analyzed

TABLE 6C; CASE 3; MISC.  
INDIRECT GEOCHEMICAL INDICATORS  
EAGLE GAS STATION  
4301 SAN LEANDRO ST., OAKLAND, CALIFORNIA 94601  
EBS # CWG ZP046D

**Chemistry: 20% sodium hydroxide and 25% sodium persulfate**

WELL	DATE	Alkalinity Total (CaCO <sub>3</sub> ) (mg/L)	Hydroxide Alkalinity (mg/L)	Bicarbonate Alkalinity (CaCO <sub>3</sub> ) (mg/L)	Carbonate Alkalinity (CaCO <sub>3</sub> ) (mg/L)	Biochemical Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	Calcium (mg/L)	Chemical Oxygen Demand (COD) (mg/L)	Specific Conductance (EC) (umhos/cm)	Fluoride (mg/L)
Eagle Gas Case 0 Initial groundwater	10/12/2007	290	<1.00	707	<1.00	1,760	76	2,560	1,710.00	<1.00

WELL	DATE	Nitrate + Nitrate as N (mg/L)	Total Hardness (as CaCO <sub>3</sub> ) (mg/L)	Total Cations (meq/L)	Total Anions (meq/L)	Potassium (mg/L)	Methylene Blue Active Substances (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Nitrate (as NO <sub>3</sub> ) (mg/L)
Eagle Gas Case 0 Initial groundwater	10/12/2007	<0.400	670	15.0	12.1	4.1	<0.0500	120	39	<1.00

WELL	DATE	Nitrate (as N) (mg/L)	Nitrate (as NO <sub>2</sub> ) (mg/L)	Nitrite (as N) (mg/L)	pH Field Test	Total Dissolved Solids (mg/L)	Sulfate (as SO <sub>4</sub> ) (mg/L)	Total Heterotrophs (cfu/mL) microbes	Target Hydrocarbons Detected	Specific Hydrocarbon Degradars (cfu/mL) microbes
Eagle Gas Case 0 Initial groundwater	7/19/2007	<0.200	<0.500	<0.200	8.16	1170	3.50	--	Gasoline/Diesel	--

**NOTES:**

mg/L: milligrams per liter

µg/L: micrograms per liter

<0.10: Not detected above the noted laboratory practical quantitation limit

NA: Not analyzed

cfu: colony-forming unit

mS/cm: milli-Siemens per centimeter

mV: millivolt

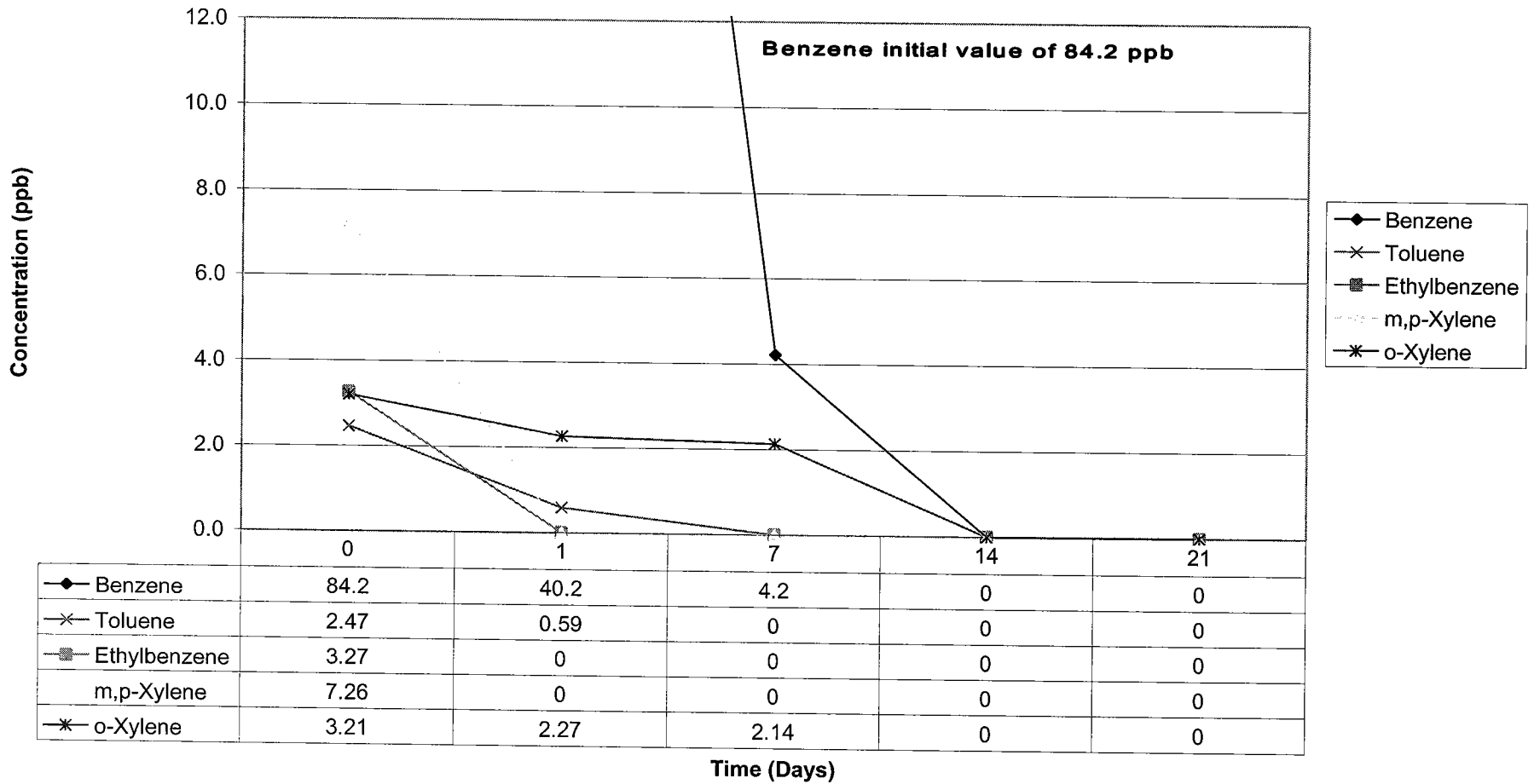
TPH-d: Total petroleum hydrocarbons as diesel

MTBE: methyl tertiary butyl ether

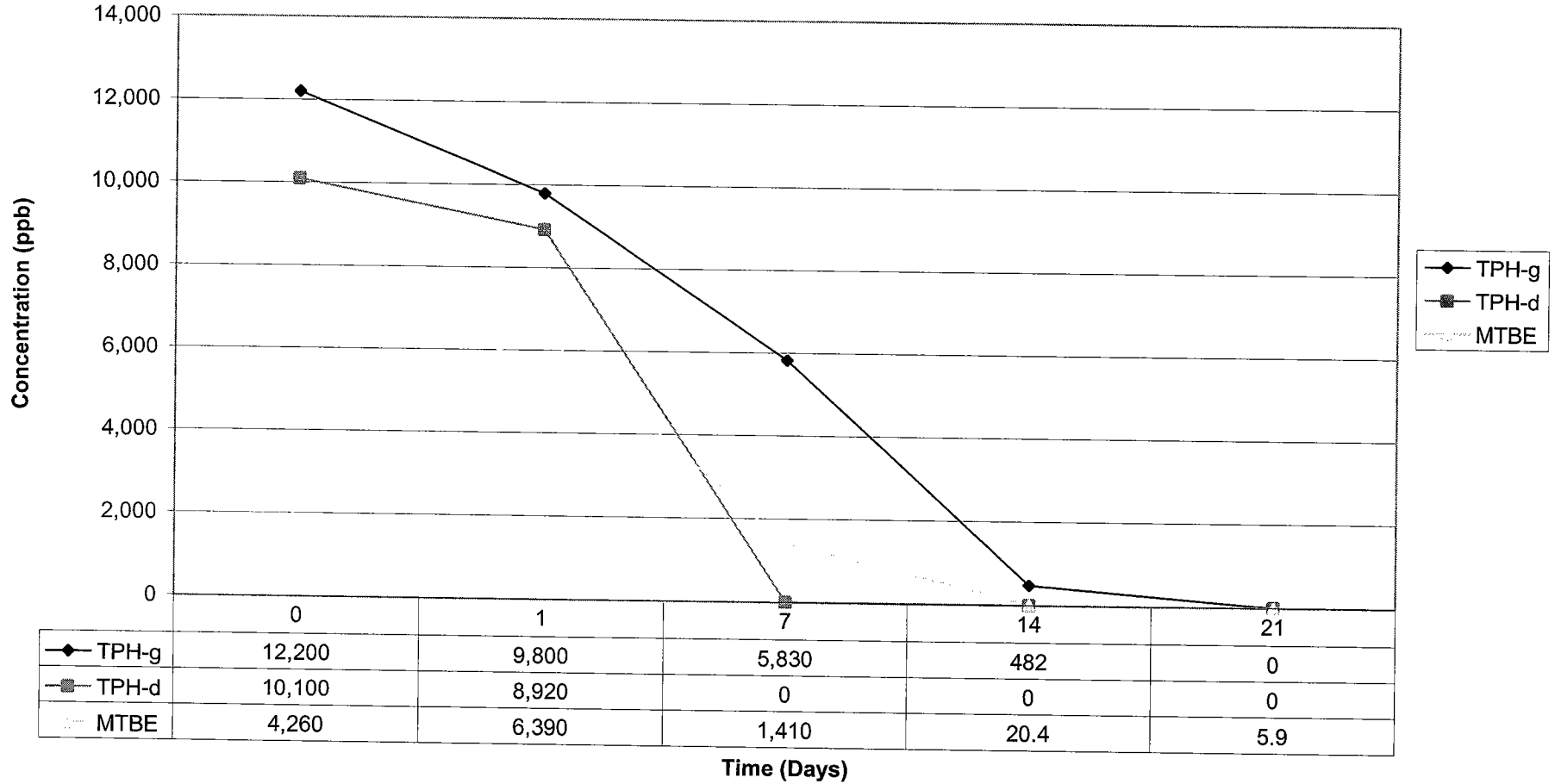
pH: negative logarithm of the hydronium (H<sub>3</sub>O<sup>+</sup>) ion concentration

BOD<sub>5</sub>: Biological Oxygen Demand, 5-day test

**Chart 6A: Concentrations of BTEX vs. Time**  
**Case 3: 20% sodium hydroxide and 25% sodium persulfate**  
**Eagle Gas Station**  
**4301 San Leandro St., Oakland, CA 94601**



**Chart 6B: Concentrations of TPH-g, TPH-d, & MTBE vs. Time**  
**Case 3: 20% sodium hydroxide and 25% sodium persulfate**  
**Eagle Gas Station**  
**4301 San Leandro St., Oakland, CA 94601**



**TABLE 7**  
**CASE COMPARISON**  
**EAGLE GAS**  
4301 SAN LEANDRO ST., OAKLAND CALIFORNIA 94601  
EBS # CWG ZP046D

	Days	Metals µg/L	TPH-g	TPH-d	MTBE	Benzene	TBA µg/L
			% Reduction				
<b>Case 1</b>	1	NA	62.21	11.29	55.63	100	148,000
	7	NA	91.39	100	99.83	100	27,200
	14	NA	100	100	98.47	100	25,500
	21	Arsenic 1,090 Chromium 1,840 Manganese 101,000	100	100	99.34	100	15,300
<b>Case 2</b>	1	NA	22.46	8.12	0.00	91.09	304,000
	7	NA	10.66	88.12	22.30	100	252,000
	14	NA	88.61	100	97.90	100	89,800
	21	Arsenic 538 Chromium 383 Manganese 19,500 Lead 108	100	100	99.83	100	5,370
<b>Case 3</b>	1	NA	19.67	11.68	0.00	52.26	230,000
	7	NA	52.21	100	66.90	95.00	131,000
	14	NA	96.00	100	99.52	100	10,700
	21	Lead 92.9 Arsenic 415 Chromium 1,050	100	100	99.86	100	1,420

**Notes:**

TPH-g Total petroleum hydrocarbons as gasoline by EPA Method 5030/8015M  
TPH-d Total petroleum hydrocarbons as diesel by EPA Method 3510/8015M  
µg/L Micrograms per liter (liquid)  
mg/L Milligrams per liter (liquid)  
Benzene By EPA Method 8020 or 8260B  
MTBE Methyl-tert-butyl-ether by EPA Method 8260B  
TBA Tert-butanol by EPA Method 8260B  
% Reduction  $(1 - [\text{Final Amount} / \text{Initial Amount}]) * 100\%$   
NA Not Analyzed

# ATTACHMENT C

**ANALYTICAL RESULTS SUMMARY TABLE**

ENVIRONMENTAL BIO-SYSTEMS, INC. BENCH TESTING DATA FORM

Eagle Gas Project

Tester: Jonathan Le

Client: Clearwater Group

Client Job No. ZP046D

Soils: MW-7D about 20 feet below ground surface

Water from MW-5

Bench Test: Started 10/12/07

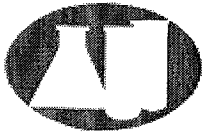
Sample ID#	Pages	Time (days)	Date	Temp (C)	pH	DO(mg/L)	mV ORP	Fe(II) (mg/L)	Fe(total) mg/L	%Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> Remaining	% H <sub>2</sub> O <sub>2</sub> Remaining
EGC=0	1 of 23	0	10/12/2007	19.31	6.72	5.88	14.4	0.6	9.1	NA	NA
<b>CASE 1</b>											
EGC-1-1	1 of 33	1	10/13/2007	25.4	1.59	35.9	306.2	2	5	xxx	xxx
EGC-1-7	4 of 33	7	10/19/2007	22.2	1.29	11.8	317	2	5	0.04	0.5
EGC-1-14	7 of 33	14	10/26/2007	23	1.85	24.2	285	0	5	0.029	0.5
EGC-1-21	10 of 33	21	11/2/2007	23.9	1.72	8.23	292	0	6	0	0
<b>CASE 2</b>											
EGC-2-1	1 of 33	1	10/13/2007	24.5	6.91	3.85	3.7	2	6		NA
EGC-2-7	4 of 33	7	10/19/2007	22.1	1.99	3.58	285	1	6		NA
EGC-2-14	7 of 33	14	10/26/2007	24	2.16	2.76	266	0	7		NA
EGC-2-21	10 of 33	21	11/2/2007	23.7	2.17	3.82	266	1	7		NA
<b>CASE 3</b>											
EGC-3-1	1 of 33	1	10/13/2007	24.5	13.07	1.6	-345	0	0		NA
EGC-3-7	4 of 33	7	10/19/2007	22.1	12.42	2.9	-315	0	0		NA
EGC-3-14	7 of 33	14	10/26/2007	24.5	12.5	2.54	-330	0	0		NA
EGC-3-21	10 of 33	21	11/2/2007	23.6	11.84	3.85	-292	0	0		NA

xxx

Lab technician overlooked performing this analysis

CONTROL SAMPLE





**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

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**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC=0 Control Sample T=0  
**Laboratory ID:** 7101214-01  
**Date/Time Sampled:** 12-Oct-07 18:30 by Jonathan Le

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Chromium (VI)	ND	2.00	ug/l	1	AJ71311	13-Oct-07	13-Oct-07	EPA 7196A	

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
 Exceptional sample matrices or interferences may  
 result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

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**Metals by EPA 200 Series Methods**

*Sample Information*

**Sample ID:** EGC=0 Control Sample T=0  
**Laboratory ID:** 7101214-01  
**Date/Time Sampled:** 12-Oct-07 18:30 by Jonathan Le

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Arsenic	8.3	2.0	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Barium	350	100	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Cadmium	ND	1.0	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Chromium	78	10	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Mercury	1.1	1.0	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Manganese	1230	20.0	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Lead	ND	5.0	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	
Selenium	ND	5.0	ug/l	1	AJ71709	17-Oct-07	17-Oct-07	EPA 200.8	

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
 Exceptional sample matrices or interferences may  
 result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 3 of 23

**Volatile Organic Compounds by EPA Method 8260B**

**Sample Information**

**Sample ID:** EGC=0 Control Sample T=0  
**Laboratory ID:** 7101214-01  
**Date/Time Sampled:** 12-Oct-07 18:30 by Jonathan Le

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	192000	5.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	4260	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	217	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Benzene	84.2	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethylbenzene	3.27	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Toluene	2.47	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
m,p-Xylene	7.26	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
o-Xylene	3.21	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		91 %		70-125					
Surrogate: Dibromofluoromethane		72 %		70-125					
Surrogate: 4-Bromofluorobenzene		92 %		70-125					

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 4 of 23

**Conventional Chemistry Parameters by APHA/EPA Methods**

**Sample Information**

**Sample ID:** EGC=0 Control Sample T=0  
**Laboratory ID:** 7101214-01  
**Date/Time Sampled:** 12-Oct-07 18:30 by Jonathan Le

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Total Alkalinity	290	1.00	mg/L	1	AJ71210	12-Oct-07	12-Oct-07	SM 2320 B	
Hydroxide Alkalinity	ND	1.00	mg/L	1	AJ71210	12-Oct-07	12-Oct-07	SM 2320 B	
Bicarbonate Alkalinity	707	1.00	mg/L	1	AJ71210	12-Oct-07	12-Oct-07	SM 2320 B	
Carbonate Alkalinity	ND	1.00	mg/L	1	AJ71210	12-Oct-07	12-Oct-07	SM 2320 B	
Biochemical Oxygen Demand	1760	2.00	mg/L	1	AJ71301	13-Oct-07	13-Oct-07	SM 5210 B	
Calcium	76	0.50	mg/L	1	AJ71805	19-Oct-07	19-Oct-07	EPA 200.7	
Chloride	16.5	1.00	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	
Chemical Oxygen Demand	2560	10.0	mg/L	1	AK70203	02-Nov-07	02-Nov-07	EPA 410.4	
Specific Conductance (EC)	1710	1.00	umhos/cm	1	AJ71211	12-Oct-07	12-Oct-07	EPA 120.1	
Fluoride	ND	1.00	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	
Nitrate + Nitrite as N	ND	0.400	mg/L	1	[CALC]	19-Oct-07	07-Oct-13	Calc.	
Total Cations	15.0	0.140	meq/l	1	[CALC]	19-Oct-07	19-Oct-07	Calc.	
Total Anions	12.1	0.226	meq/l	1	[CALC]	19-Oct-07	07-Oct-13	Calc.	
Total Hardness (as CaCO3) (mg/L)	670	3.30	mg/L	1	[CALC]	19-Oct-07	19-Oct-07	Calc.	
Potassium	4.1	1.0	mg/L	1	AJ71805	19-Oct-07	19-Oct-07	EPA 200.7	
Methylene Blue Active Substances	ND	0.0500	mg/L	1	AJ71313	13-Oct-07	13-Oct-07	EPA 425.1	
Magnesium	120	0.50	mg/L	1	AJ71805	19-Oct-07	19-Oct-07	EPA 200.7	
Sodium	39	1.0	mg/L	1	AJ71805	19-Oct-07	19-Oct-07	EPA 200.7	
Nitrate as NO3	ND	1.00	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	
Nitrate as N	ND	0.200	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	
Nitrite as NO2	ND	0.500	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	
Nitrite as N	ND	0.200	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	
pH	8.16	0.0100	pH Units	1	AJ71210	12-Oct-07	12-Oct-07	EPA 150.2	
Total Dissolved Solids	1170	1.00	mg/L	1	AJ73001	19-Oct-07	19-Oct-07	SM 2540 C	
Sulfate as SO4	3.50	1.00	mg/L	1	AJ71308	13-Oct-07	07-Oct-13	EPA 300.0	

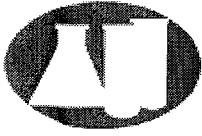
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result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 5 of 23

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC=0 Control Sample T=0  
**Laboratory ID:** 7101214-01  
**Date/Time Sampled:** 12-Oct-07 18:30 by Jonathan Le

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	12200	100	ug/l	1	AJ71304	13-Oct-07	14-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		90 %		75-125					

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 6 of 23

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC=0 Control Sample T=0  
**Laboratory ID:** 7101214-01  
**Date/Time Sampled:** 12-Oct-07 18:30 by Jonathan Le

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	10100	100	ug/l	1	AJ71306	13-Oct-07	07-Nov-07	LUFT GC/MS	

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Attention: James Jacobs  
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Mill Valley, CA 94941

Report Page 7 of 23

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-0 Control Sample T=0  
**Laboratory ID:** 7101214-02  
**Date/Time Sampled:** 12-Oct-07 18:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Arsenic	ND	0.500	mg/kg	1	AJ71704	17-Oct-07	17-Oct-07	EPA 6010A	
Barium	119	0.500	mg/kg	1	AJ71704	17-Oct-07	17-Oct-07	EPA 6010A	
Cadmium	0.104	0.100	mg/kg	1	AJ71704	17-Oct-07	17-Oct-07	EPA 6010A	
Chromium	10.3	0.500	mg/kg	1	AJ71704	17-Oct-07	17-Oct-07	EPA 6010A	
Chromium (VI)	ND	0.050	mg/kg	1	AJ71312	13-Oct-07	13-Oct-07	EPA 7196A	
Mercury	0.348	0.100	mg/kg	1	AK72605	12-Oct-07	12-Nov-07	EPA 6020	
Manganese	390	0.50	mg/kg	1	AJ72314	23-Oct-07	23-Oct-07	EPA 6010A	
Lead	4.51	0.500	mg/kg	1	AJ71704	17-Oct-07	17-Oct-07	EPA 6010A	
Selenium	ND	0.500	mg/kg	1	AJ71704	17-Oct-07	17-Oct-07	EPA 6010A	

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ug/L = micrograms per Liter = ppb

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**Attention:** James Jacobs  
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Mill Valley, CA 94941

Report Page 8 of 23

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-0 Control Sample T=0

**Laboratory ID:** 7101214-02

**Date/Time Sampled:** 12-Oct-07 18:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	34100	50.0	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	1210	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Ethylbenzene	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Benzene	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Toluene	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
m,p-Xylene	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
o-Xylene	ND	5.00	ug/kg	1	AJ71303	13-Oct-07	14-Oct-07	EPA 8260B	
Surrogate: Dibromofluoromethane		94 %		80-120					
Surrogate: Toluene-d8		89 %		81-117					
Surrogate: 4-Bromofluorobenzene		102 %		74-121					

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 9 of 23

**Conventional Chemistry Parameters by APHA/EPA Methods**

*Sample Information*

**Sample ID:** EGC-0 Control Sample T=0  
**Laboratory ID:** 7101214-02  
**Date/Time Sampled:** 12-Oct-07 18:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
% Moisture	19.2		[blank]	1	AJ71314	13-Oct-07	13-Oct-07	% calculation	

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 10 of 23

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-0 Control Sample T=0

**Sample Type:** Grab

**Laboratory ID:** 7101214-02

**Project Name:** Clearwater / Eagle Gas Oakland

**Date/Time Sampled:** 12-Oct-07 18:30 by James Jacobs / Jacques

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	3520	200	ug/kg	1	AJ71305	13-Oct-07	14-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		102 %	75-125						

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**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 11 of 23

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-0 Control Sample T=0  
**Laboratory ID:** 7101214-02  
**Date/Time Sampled:** 12-Oct-07 18:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Soil

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	10.2	1.00	mg/kg	1	AJ71307	13-Oct-07	07-Nov-07	EPA 8015M	

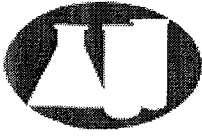
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Mill Valley, CA 94941

Report Page 12 of 23

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71704 - EPA 3050B**

**Blank (AJ71704-BLK1)**

Prepared: 17-Oct-07 Analyzed: 18-Oct-07

Barium	ND	0.0100	mg/kg							
Cadmium	ND	0.00200	"							
Selenium	ND	0.0100	"							
Chromium	ND	0.0100	"							
Lead	ND	0.0100	"							
Arsenic	ND	0.0100	"							

**LCS (AJ71704-BS1)**

Prepared: 17-Oct-07 Analyzed: 18-Oct-07

Arsenic	0.505	0.0100	mg/kg	0.500		101	80-120			
Cadmium	0.496	0.00200	"	0.500		99	80-120			
Selenium	0.487	0.0100	"	0.500		97	80-120			
Barium	0.504	0.0100	"	0.500		101	80-120			
Lead	0.503	0.0100	"	0.500		101	80-120			
Chromium	0.509	0.0100	"	0.500		102	80-120			

**Matrix Spike (AJ71704-MS1)**

Source: 7101214-02

Prepared: 17-Oct-07 Analyzed: 18-Oct-07

Chromium	60.1	0.500	mg/kg	50.0	10.3	100	75-125			
Cadmium	53.5	0.100	"	50.0	0.104	107	75-125			
Lead	56.8	0.500	"	50.0	4.51	105	75-125			
Barium	167	0.500	"	50.0	119	97	75-125			
Arsenic	47.8	0.500	"	50.0	ND	96	75-125			
Selenium	43.9	0.500	"	50.0	ND	88	75-125			

**Matrix Spike Dup (AJ71704-MSD1)**

Source: 7101214-02

Prepared: 17-Oct-07 Analyzed: 18-Oct-07

Barium	167	0.500	mg/kg	50.0	119	97	75-125	0.04	20	
Cadmium	53.4	0.100	"	50.0	0.104	107	75-125	0.2	20	
Lead	56.8	0.500	"	50.0	4.51	105	75-125	0.06	20	
Arsenic	47.4	0.500	"	50.0	ND	95	75-125	0.8	20	
Selenium	43.7	0.500	"	50.0	ND	87	75-125	0.6	20	
Chromium	60.3	0.500	"	50.0	10.3	100	75-125	0.2	20	

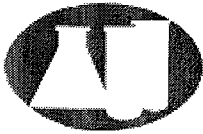
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RESPECTFULLY SUBMITTED,

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Attention: James Jacobs  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 13 of 23

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ72314 - EPA 3050B**

**Blank (AJ72314-BLK1)**

Prepared & Analyzed: 23-Oct-07

Barium	ND	0.500	mg/kg							
Cadmium	ND	0.100	"							
Lead	ND	0.500	"							
Selenium	ND	0.500	"							
Chromium	ND	0.500	"							
Manganese	ND	0.50	"							
Arsenic	ND	0.500	"							

**LCS (AJ72314-BS1)**

Prepared & Analyzed: 23-Oct-07

Barium	49.9	0.500	mg/kg	50.0	100	80-120				
Selenium	49.8	0.500	"	50.0	100	80-120				
Lead	50.4	0.500	"	50.0	101	80-120				
Cadmium	49.7	0.100	"	50.0	99	80-120				
Arsenic	49.1	0.500	"	50.0	98	80-120				
Manganese	49.9	0.50	"	50.0	100	80-120				
Chromium	50.0	0.500	"	50.0	100	80-120				

**Matrix Spike (AJ72314-MS1)**

Source: 7101214-02

Prepared & Analyzed: 23-Oct-07

Chromium	69.3	0.500	mg/kg	50.0	10.3	118	75-125			
Cadmium	49.4	0.100	"	50.0	0.104	99	75-125			
Manganese	427	0.50	"	50.0	385	83	75-125			
Barium	162	0.500	"	50.0	119	86	75-125			
Arsenic	54.7	0.500	"	50.0	ND	109	75-125			
Lead	49.5	0.500	"	50.0	4.51	90	75-125			
Selenium	34.3	0.500	"	50.0	ND	69	70-125			

**Matrix Spike Dup (AJ72314-MSD1)**

Source: 7101214-02

Prepared & Analyzed: 23-Oct-07

Arsenic	55.8	0.500	mg/kg	50.0	ND	112	75-125	2	20	
Manganese	429	0.50	"	50.0	385	88	75-125	0.5	20	
Chromium	69.1	0.500	"	50.0	10.3	118	75-125	0.2	20	
Lead	50.1	0.500	"	50.0	4.51	91	75-125	1	20	
Barium	161	0.500	"	50.0	119	84	75-125	0.6	20	
Cadmium	49.5	0.100	"	50.0	0.104	99	75-125	0.3	20	

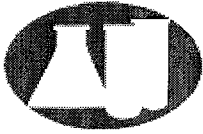
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Mill Valley, CA 94941

Report Page 14 of 23

**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71709 - EPA 3020A**

**Blank (AJ71709-BLK1)**

Prepared & Analyzed: 17-Oct-07

Cadmium	ND	1.0	ug/l							
Mercury	ND	1.0	"							
Barium	ND	100	"							
Lead	ND	5.0	"							
Arsenic	ND	2.0	"							
Manganese	ND	20.0	"							
Chromium	ND	10	"							
Selenium	ND	5.0	"							

**LCS (AJ71709-BS1)**

Prepared & Analyzed: 17-Oct-07

Mercury	2.3	1.0	ug/l				89-108			
Arsenic	17	2.0	"	20.0		86	80-120			
Barium	16.7	100	"	20.0		84	75-125			
Lead	17	5.0	"	20.0		87	85-115			
Cadmium	17	1.0	"	20.0		85	85-115			
Manganese	ND	20.0	"	20.0			85-115			
Selenium	17	5.0	"	20.0		86	75-125			
Chromium	17	10	"	20.0		84	75-125			

**Matrix Spike (AJ71709-MS1)**

Source: 7092401-05

Prepared & Analyzed: 17-Oct-07

Cadmium	8.2	1.0	ug/l	20.0	ND	41	75-125			
Arsenic	35	2.0	"	20.0	19	83	80-120			
Barium	57.4	100	"	20.0	39.8	88	75-125			
Mercury	ND	1.0	"		ND		75-125			
Lead	8.6	5.0	"	20.0	ND	43	60-125			
Chromium	27	10	"	20.0	15	60	75-125			
Manganese	30.8	20.0	"	20.0	10.6	101	60-125			
Selenium	18	5.0	"	20.0	1.1	83	60-125			

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Mill Valley, CA 94941

Report Page 15 of 23

**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71709 - EPA 3020A**

**Matrix Spike Dup (AJ71709-MSD1)**

Source: 7092401-05

Prepared & Analyzed: 17-Oct-07

Lead	9.4	5.0	ug/l	20.0	ND	47	60-125	9	20	
Mercury	ND	1.0	"		ND		75-125		20	
Barium	60.7	100	"	20.0	39.8	105	60-125	6	20	
Arsenic	37	2.0	"	20.0	19	92	60-120	5	20	
Cadmium	14	1.0	"	20.0	ND	70	60-125	52	20	
Manganese	30.1	20.0	"	20.0	10.6	98	60-125	2	20	
Chromium	27	10	"	20.0	15	61	60-125	0.5	20	
Selenium	18	5.0	"	20.0	1.1	86	60-125	4	20	

**Reference (AJ71709-SRM1)**

Prepared & Analyzed: 17-Oct-07

Arsenic	ND	2.0	ug/l	500			85-125			
Cadmium	ND	1.0	"	500			85-125			
Lead	ND	5.0	"	500			85-125			
Manganese	ND	20.0	"	500			85-125			
Selenium	ND	5.0	"	500			85-125			
Chromium	ND	10	"	500			85-125			

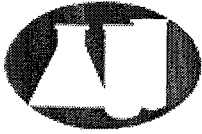
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Mill Valley, CA 94941

Report Page 16 of 23

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71302 - Volatiles**

**Blank (AJ71302-BLK1)**

Prepared & Analyzed: 13-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71302-BS1)**

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	44.6	0.500	ug/l	40.0		111	75-122			
Ethylbenzene	40.9	0.500	"	40.0		102	75-122			
Toluene	39.9	0.500	"	40.0		100	75-122			
m,p-Xylene	78.5	1.00	"	80.0		98	75-122			
o-Xylene	29.7	1.00	"	40.0		74	75-122			

**Matrix Spike (AJ71302-MS1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	75.6	0.500	ug/l	40.0	40.2	88	75-125			
Ethylbenzene	42.6	0.500	"	40.0	ND	107	75-125			
Toluene	35.2	0.500	"	40.0	0.590	86	75-125			
m,p-Xylene	78.5	1.00	"	80.0	ND	98	75-125			
o-Xylene	26.1	1.00	"	40.0	2.27	60	75-125			

**Matrix Spike Dup (AJ71302-MSD1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	51.0	0.500	ug/l	40.0	40.2	27	75-125	39	20	
Ethylbenzene	44.6	0.500	"	40.0	ND	112	75-125	5	20	
Toluene	38.1	0.500	"	40.0	0.590	94	75-125	8	20	
m,p-Xylene	83.5	1.00	"	80.0	ND	104	75-125	6	20	
o-Xylene	27.9	1.00	"	40.0	2.27	64	75-125	7	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

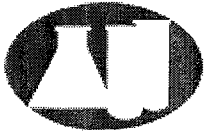
DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497





**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 17 of 23

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71303 - Volatiles**

**Blank (AJ71303-BLK1)**

Prepared & Analyzed: 13-Oct-07

tert-Butyl Alcohol (TBA)	ND	50.0	ug/kg							
Methyl tert-butyl Ether (MtBE)	ND	5.00	"							
Diisopropyl Ether (DIPE)	ND	5.00	"							
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	"							
tert-Amyl Methyl Ether (TAME)	ND	5.00	"							
1,2-Dibromoethane (EDB)	ND	5.00	"							
1,2-Dichloroethane	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Benzene	ND	5.00	"							
Toluene	ND	5.00	"							
m,p-Xylene	ND	5.00	"							
o-Xylene	ND	5.00	"							

**Matrix Spike (AJ71303-MS1)**

Source: 7101214-02

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

1,2-Dichloroethane	40.6	5.00	ug/kg	40.0	ND	102	0-200			
Ethylbenzene	42.6	5.00	"	40.0	ND	107	0-200			
Benzene	40.0	5.00	"	40.0	2.29	94	75-125			
Toluene	35.2	5.00	"	40.0	0.800	86	75-125			
m,p-Xylene	78.5	5.00	"	80.0	1.50	96	0-200			
o-Xylene	26.1	5.00	"	40.0	2.11	60	0-200			

**Matrix Spike Dup (AJ71303-MSD1)**

Source: 7101214-02

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

1,2-Dichloroethane	41.0	5.00	ug/kg	40.0	ND	103	0-200	1	200	
Ethylbenzene	44.6	5.00	"	40.0	ND	112	0-200	5	200	
Benzene	38.0	5.00	"	40.0	2.29	89	75-125	5	20	
Toluene	38.1	5.00	"	40.0	0.800	93	75-125	8	20	
m,p-Xylene	83.5	5.00	"	80.0	1.50	102	0-200	6	200	
o-Xylene	27.9	5.00	"	40.0	2.11	65	0-200	7	200	

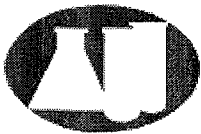
mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 18 of 23

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control  
Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71210 - General Preparation</b>										
<b>Blank (AJ71210-BLK1)</b> Prepared & Analyzed: 12-Oct-07										
Total Alkalinity	ND	1.00	mg/L							
Hydroxide Alkalinity	ND	1.00	"							
Bicarbonate Alkalinity	ND	1.00	"							
Carbonate Alkalinity	ND	1.00	"							
<b>Duplicate (AJ71210-DUP1)</b> Source: 7100912-03 Prepared & Analyzed: 12-Oct-07										
Total Alkalinity	5.00	1.00	mg/L		5.00			0	20	
<b>Reference (AJ71210-SRM1)</b> Prepared & Analyzed: 12-Oct-07										
Total Alkalinity	30.0	1.00	mg/L	25.0		120	85-120			
<b>Batch AJ71301 - General Preparation</b>										
<b>Blank (AJ71301-BLK1)</b> Prepared & Analyzed: 13-Oct-07										
Biochemical Oxygen Demand	ND	2.00	mg/L							
<b>Duplicate (AJ71301-DUP1)</b> Source: 7101304-01 Prepared & Analyzed: 13-Oct-07										
Biochemical Oxygen Demand	237	2.00	mg/L		215			10	20	
<b>Reference (AJ71301-SRM1)</b> Prepared & Analyzed: 13-Oct-07										
Biochemical Oxygen Demand	208	2.00	mg/L	198		105	70-130			
<b>Batch AJ71308 - General Preparation</b>										
<b>Blank (AJ71308-BLK1)</b> Prepared: 13-Oct-07 Analyzed: 07-Oct-13										
Chloride	ND	1.00	mg/L							
Fluoride	ND	1.00	"							
Sulfate as SO4	ND	1.00	"							
Nitrate as NO3	ND	1.00	"							
Nitrate as N	ND	0.200	"							
Nitrite as NO2	ND	0.500	"							
Nitrite as N	ND	0.200	"							

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 19 of 23

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71308 - General Preparation**

**LCS (AJ71308-BS1)**

Prepared: 13-Oct-07 Analyzed: 07-Oct-13

Fluoride	19.1	1.00	mg/L	20.0		96	80-120			
Chloride	14.3	1.00	"	20.0		71	80-120			
Sulfate as SO4	15.4	1.00	"	20.0		77	80-120			
Nitrite as N	4.23	0.200	"	6.09		69	70-110			
Nitrate as N	3.34	0.200	"	4.52		74	70-120			
Nitrite as NO2	14.1	0.500	"	20.0		71	70-120			
Nitrate as NO3	14.8	1.00	"	20.0		74	70-120			

**Matrix Spike (AJ71308-MS1)**

Source: 7101214-01

Prepared: 13-Oct-07 Analyzed: 07-Oct-13

Fluoride	22.0	1.00	mg/L	20.0	ND	110	75-125			
Sulfate as SO4	22.0	1.00	"	20.0	3.50	93	75-125			
Chloride	36.1	1.00	"	20.0	16.5	98	75-125			
Nitrate as NO3	18.8	1.00	"	20.0	ND	94	75-125			
Nitrate as N	4.23	0.200	"	4.52	ND	94	70-125			
Nitrite as NO2	16.8	0.500	"	20.0	ND	84	70-110			
Nitrite as N	5.04	0.200	"	6.09	ND	83	70-120			

**Matrix Spike Dup (AJ71308-MSD1)**

Source: 7101214-01

Prepared: 13-Oct-07 Analyzed: 07-Oct-13

Sulfate as SO4	20.7	1.00	mg/L	20.0	3.50	86	75-125	6	20	
Chloride	35.6	1.00	"	20.0	16.5	96	75-125	2	20	
Fluoride	21.1	1.00	"	20.0	ND	105	75-125	5	20	
Nitrite as N	4.70	0.200	"	6.09	ND	77	70-120	7	20	
Nitrite as NO2	15.7	0.500	"	20.0	ND	78	70-110	7	20	
Nitrate as NO3	16.3	1.00	"	20.0	ND	82	75-125	14	20	
Nitrate as N	3.69	0.200	"	4.52	ND	82	70-125	14	20	

**Batch AJ71313 - General Preparation**

**Blank (AJ71313-BLK1)**

Prepared & Analyzed: 13-Oct-07

Methylene Blue Active Substances	ND	0.0500	mg/L							
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result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 20 of 23

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71805 - General Prep**

**Blank (AJ71805-BLK1)**

Prepared & Analyzed: 19-Oct-07

Calcium	ND	0.50	mg/L							
Magnesium	ND	0.50	"							
Sodium	ND	1.0	"							
Potassium	ND	1.0	"							

**LCS (AJ71805-BS1)**

Prepared & Analyzed: 19-Oct-07

Calcium	54.8	0.50	mg/L	50.0		110	80-120			
Magnesium	51.9	0.50	"	50.0		104	80-120			
Sodium	49.6	1.0	"	50.0		99	80-120			
Potassium	46.3	1.0	"	50.0		93	80-120			

**Matrix Spike (AJ71805-MS1)**

Source: 7101911-02

Prepared & Analyzed: 19-Oct-07

Magnesium	125	0.50	mg/L	50.0	61.5	127	80-130			
Sodium	315	1.0	"	50.0	268	95	80-130			
Potassium	67.8	1.0	"	50.0	3.78	128	80-130			

**Matrix Spike Dup (AJ71805-MSD1)**

Source: 7101911-02

Prepared & Analyzed: 19-Oct-07

Magnesium	123	0.50	mg/L	50.0	61.5	123	80-130	2	20	
Sodium	316	1.0	"	50.0	268	96	80-130	0.2	20	
Potassium	63.2	1.0	"	50.0	3.78	119	80-130	7	20	

**Batch AJ73001 - General Preparation**

**Blank (AJ73001-BLK1)**

Prepared & Analyzed: 30-Oct-07

Total Dissolved Solids	ND	1.00	mg/L							
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**Duplicate (AJ73001-DUP1)**

Source: 7101003-01

Prepared & Analyzed: 30-Oct-07

Total Dissolved Solids	1830	1.00	mg/L		1820			0.4	200	
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mg/L = milligrams per Liter = ppm  
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 21 of 23

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ73001 - General Preparation</b>										
<b>Reference (AJ73001-SRM1)</b>				Prepared & Analyzed: 30-Oct-07						
Total Dissolved Solids	460	1.00	mg/L	400		115	0-200			
<b>Batch AK70203 - General Preparation</b>										
<b>Blank (AK70203-BLK1)</b>				Prepared & Analyzed: 02-Nov-07						
Chemical Oxygen Demand	ND	10.0	mg/L							
<b>LCS (AK70203-BS1)</b>				Prepared & Analyzed: 02-Nov-07						
Chemical Oxygen Demand	478	10.0	mg/L	500		96	80-120			
<b>Reference (AK70203-SRM1)</b>				Prepared & Analyzed: 02-Nov-07						
Chemical Oxygen Demand	78.0	10.0	mg/L	100		78	0-200			

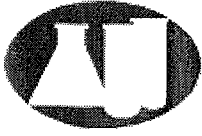
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 22 of 23

**Total Petroleum Hydrocarbons-Gasoline - Quality Control**  
**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71304 - Volatiles</b>										
<b>Blank (AJ71304-BLK1)</b>										
Prepared & Analyzed: 13-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	61.0		"	50.0		122	75-125			
<b>LCS (AJ71304-BS1)</b>										
Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	1810	100	ug/l	2000	9800	90	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ71304-MS1)</b>										
Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ71304-MSD1)</b>										
Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125	0.08	20	
Surrogate: 4-Bromofluorobenzene	55.0		"	50.0		110	75-125			

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton C.A. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**PRECISION**  
**ENVIRO-TECH**  
*Analytical Laboratory*

**CERTIFICATE OF ANALYSIS**

*Tuesday, November 27, 2007*

**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

*Report Page 23 of 23*

**Notes and Definitions**

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

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*mg/L = milligrams per Liter = ppm*  
*ug/L = micrograms per Liter = ppb*

*DLR = Detection Limit for Purpose of Reporting.*  
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*result in higher detection limits.*

RESPECTFULLY SUBMITTED,

A handwritten signature in black ink, appearing to read 'Jonathan Le'.

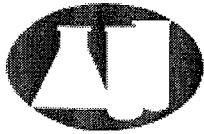
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Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497

# CASE 1





**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 1 of 33

**Volatile Organic Compounds by EPA Method 8260B**

**Sample Information**

**Sample ID:** EGC-1-1 Case 1 T=1  
**Laboratory ID:** 7101306-01  
**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	148000	5.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	1890	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	4.82	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethylbenzene	0.660	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
m,p-Xylene	1.67	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
o-Xylene	2.29	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		97 %		70-125					
Surrogate: Dibromofluoromethane		111 %		70-125					
Surrogate: 4-Bromofluorobenzene		100 %		70-125					

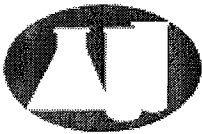
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 ug/L = micrograms per Liter = ppb

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 2 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-1-1 Case 1 T=1

**Laboratory ID:** 7101306-01

**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	4610	100	ug/l	1	AJ71304	13-Oct-07	14-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		100 %		75-125					

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 3 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

**Sample Information**

**Sample ID:** EGC-1-1 Case 1 T=1  
**Laboratory ID:** 7101306-01  
**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Diesel	8960	100	ug/l	1	AJ71306	13-Oct-07	07-Nov-07	LUFT GC/MS	

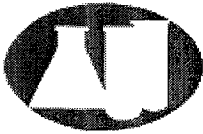
mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 4 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-1-7 Case 1 T=7

**Laboratory ID:** 7101306-02

**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	27200	5.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MTBE)	7.17	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
o-Xylene	2.91	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		90 %		70-125					
Surrogate: Dibromofluoromethane		105 %		70-125					
Surrogate: 4-Bromofluorobenzene		106 %		70-125					

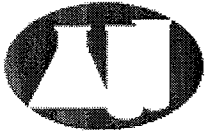
mg/L = milligrams per Liter = ppm  
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DLR = Detection Limit for Purpose of Reporting.  
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 result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 5 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-1-7 Case 1 T=7  
**Laboratory ID:** 7101306-02  
**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Gasoline	1050	100	ug/l	1	AJ71906	19-Oct-07	19-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		106 %		70-125					

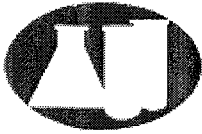
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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 6 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-1-7 Case 1 T=7

**Laboratory ID:** 7101306-02

**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	ND	100	ug/l	1	AJ71907	19-Oct-07	08-Nov-07	LUFT GC/MS	

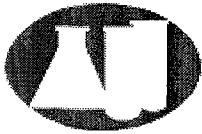
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 7 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-1-14 Case 1 T=14

**Laboratory ID:** 7101306-03

**Date/Time Sampled:** 26-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	25500	5.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	65.2	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
o-Xylene	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		94 %		70-125					
Surrogate: Dibromofluoromethane		99 %		70-125					
Surrogate: 4-Bromofluorobenzene		96 %		70-125					

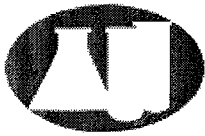
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 8 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-1-14 Case 1 T=14

**Laboratory ID:** 7101306-03

**Date/Time Sampled:** 26-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	100	ug/l	1	AJ72602	26-Oct-07	26-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		96 %	75-125						

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 9 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-1-14 Case 1 T=14

**Laboratory ID:** 7101306-03

**Date/Time Sampled:** 26-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	ND	100	ug/l	1	AJ72603	26-Oct-07	27-Nov-07	LUFT GC/MS	

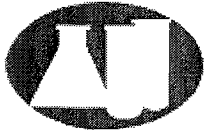
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**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 10 of 33

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Chromium (VI)	ND	2.00	ug/l	1	AK70215	02-Nov-07	02-Nov-07	EPA 7196A	

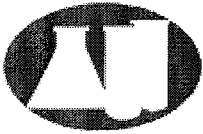
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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 11 of 33

**Metals by EPA 200 Series Methods**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Arsenic	1.09	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Barium	0.0887	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Cadmium	ND	0.0100	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Chromium	1.84	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Mercury	ND	1.0	ug/l	1	AK70507	05-Nov-07	05-Nov-07	EPA 200.8	
Manganese	101	0.0200	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Lead	0.0811	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Selenium	ND	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	

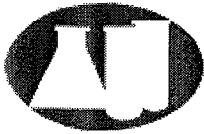
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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 12 of 33

**Volatile Organic Compounds by EPA Method 8260B**

**Sample Information**

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	15300	5.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	28.1	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
o-Xylene	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Surrogate: Toluene-d8		101 %		70-125					
Surrogate: Dibromofluoromethane		106 %		70-125					
Surrogate: 4-Bromofluorobenzene		100 %		70-125					

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 13 of 33

**Conventional Chemistry Parameters by APHA/EPA Methods**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Bromate	ND	0.100	mg/L	1	AJ71310	13-Oct-07	13-Oct-07	EPA 300.0	

mg/L = milligrams per Liter = ppm  
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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 14 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	100	ug/l	1	AK70210	02-Nov-07	02-Nov-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		100 %		75-125					

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ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 15 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Diesel	ND	100	ug/l	1	AK70212	02-Nov-07	08-Nov-07	LUFT GC/MS	

mg/L = milligrams per Liter = ppm  
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RESPECTFULLY SUBMITTED,

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Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 16 of 33

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Arsenic	10.8	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Barium	90.2	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Cadmium	ND	0.100	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Chromium	18.9	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Chromium (VI)	ND	2.00	ug/l	1	AK70215	02-Nov-07	02-Nov-07	EPA 7196A	
Mercury	0.345	0.100	mg/kg	1	AK72605	12-Nov-07	12-Nov-07	EPA 6020	
Manganese	110	0.50	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Lead	2.61	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Selenium	ND	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	

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Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 17 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	5610	50.0	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	7.41	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dichloroethane	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Ethylbenzene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Benzene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Toluene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
m,p-Xylene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
o-Xylene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Surrogate: Dibromofluoromethane		102 %			80-120				
Surrogate: Toluene-d8		102 %			81-117				
Surrogate: 4-Bromofluorobenzene		107 %			74-121				

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

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**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	200	ug/kg	1	AK70211	02-Nov-07	02-Nov-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		107 %		75-125					

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 ug/L = micrograms per Liter = ppb

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Tuesday, November 27, 2007

**Attention:** James Jacobs  
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707 View Pt Rd  
Mill Valley, CA 94941

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**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-1-21-W Case 1 T=21

**Laboratory ID:** 7101306-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Diesel	ND	1.00	mg/kg	1	AK70213	02-Nov-07	08-Nov-07	EPA 8015M	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

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Mill Valley, CA 94941

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**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AK70215 - General Preparation</b>										
<b>Blank (AK70215-BLK1)</b> Prepared & Analyzed: 02-Nov-07										
Chromium (VI)	ND	2.00	ug/l							
<b>Batch AK70303 - EPA 3050B</b>										
<b>Blank (AK70303-BLK1)</b> Prepared & Analyzed: 03-Nov-07										
Chromium	ND	0.100	mg/kg							
Selenium	ND	0.100	"							
Barium	ND	0.100	"							
Lead	ND	0.100	"							
Arsenic	ND	0.100	"							
Cadmium	ND	0.0200	"							
Manganese	ND	0.10	"							
<b>LCS (AK70303-BS1)</b> Prepared & Analyzed: 03-Nov-07										
Barium	9.99	0.100	mg/kg	10.0		100	80-120			
Cadmium	9.95	0.0200	"	10.0		99	80-120			
Manganese	10.1	0.10	"	10.0		101	80-120			
Arsenic	9.84	0.100	"	10.0		98	80-120			
Chromium	9.99	0.100	"	10.0		100	80-120			
Selenium	10.1	0.100	"	10.0		101	80-120			
Lead	9.97	0.100	"	10.0		100	80-120			
<b>Matrix Spike (AK70303-MS1)</b> Source: 7101307-05 Prepared & Analyzed: 03-Nov-07										
Cadmium	9.71	0.0200	mg/kg	10.0	ND	97	75-125			
Selenium	7.16	0.100	"	10.0	ND	72	70-125			
<b>Matrix Spike Dup (AK70303-MSD1)</b> Source: 7101307-05 Prepared & Analyzed: 03-Nov-07										
Selenium	7.06	0.100	mg/kg	10.0	ND	71	70-125	1	20	
Cadmium	9.93	0.0200	"	10.0	ND	99	75-125	2	20	

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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 21 of 33

**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ73104 - EPA 3020A**

**Blank (AJ73104-BLK1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Barium	ND	0.0500	mg/L							
Cadmium	ND	0.0100	"							
Manganese	ND	0.0200	"							
Selenium	ND	0.0500	"							
Arsenic	ND	0.0500	"							
Chromium	ND	0.0500	"							
Lead	ND	0.0500	"							

**LCS (AJ73104-BS1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Lead	1.05	0.0500	mg/L	1.00		105	80-120			
Cadmium	1.00	0.0100	"	1.00		100	80-120			
Selenium	1.06	0.0500	"	1.00		106	80-120			
Barium	1.04	0.0500	"	1.00		104	80-120			
Arsenic	0.842	0.0500	"	1.00		84	80-120			
Manganese	1.02	0.0200	"	1.00		102	85-115			
Chromium	1.02	0.0500	"	1.00		102	80-120			

**Matrix Spike (AJ73104-MS1)**

Source: 7103009-01

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Manganese	3.24	0.0200	mg/L	1.00	2.14	110	75-125			
Arsenic	1.10	0.0500	"	1.00	ND	110	80-120			
Selenium	1.14	0.0500	"	1.00	ND	114	80-120			
Barium	1.10	0.0500	"	1.00	ND	110	80-120			
Chromium	1.39	0.0500	"	1.00	0.0263	136	80-120			
Cadmium	1.06	0.0100	"	1.00	ND	106	80-120			
Lead	1.33	0.0500	"	1.00	0.0751	125	80-120			

**Matrix Spike Dup (AJ73104-MSD1)**

Source: 7103009-01

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Chromium	1.38	0.0500	mg/L	1.00	0.0263	136	80-120	0.2	20	
Selenium	1.14	0.0500	"	1.00	ND	114	80-120	0.5	20	
Cadmium	1.06	0.0100	"	1.00	ND	106	80-120	0.1	20	
Barium	1.10	0.0500	"	1.00	ND	110	80-120	0.3	20	
Lead	1.31	0.0500	"	1.00	0.0751	124	80-120	1	20	
Manganese	3.21	0.0200	"	1.00	2.14	108	75-125	0.8	20	
Arsenic	1.12	0.0500	"	1.00	ND	112	80-120	2	20	

mg/L = milligrams per Liter = ppm  
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ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

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EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

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**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ73104 - EPA 3020A**

**Reference (AJ73104-SRM1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Arsenic	0.429	0.0500	mg/L	0.500		86	85-125			
Cadmium	0.577	0.0100	"	0.500		115	85-125			
Lead	0.610	0.0500	"	0.500		122	85-125			
Chromium	0.597	0.0500	"	0.500		119	85-125			
Manganese	0.599	0.0200	"	0.500		120	85-125			
Selenium	0.597	0.0500	"	0.500		119	85-125			

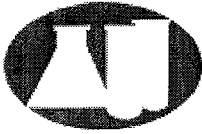
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**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71302 - Volatiles**

**Blank (AJ71302-BLK1)**

Prepared & Analyzed: 13-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71302-BS1)**

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	44.6	0.500	ug/l	40.0		111	75-122			
Ethylbenzene	40.9	0.500	"	40.0		102	75-122			
Toluene	39.9	0.500	"	40.0		100	75-122			
m,p-Xylene	78.5	1.00	"	80.0		98	75-122			
o-Xylene	29.7	1.00	"	40.0		74	75-122			

**Matrix Spike (AJ71302-MS1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	75.6	0.500	ug/l	40.0	40.2	88	75-125			
Ethylbenzene	42.6	0.500	"	40.0	ND	107	75-125			
Toluene	35.2	0.500	"	40.0	0.590	86	75-125			
m,p-Xylene	78.5	1.00	"	80.0	ND	98	75-125			
o-Xylene	26.1	1.00	"	40.0	2.27	60	75-125			

**Matrix Spike Dup (AJ71302-MSD1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	51.0	0.500	ug/l	40.0	40.2	27	75-125	39	20	
Ethylbenzene	44.6	0.500	"	40.0	ND	112	75-125	5	20	
Toluene	38.1	0.500	"	40.0	0.590	94	75-125	8	20	
m,p-Xylene	83.5	1.00	"	80.0	ND	104	75-125	6	20	
o-Xylene	27.9	1.00	"	40.0	2.27	64	75-125	7	20	

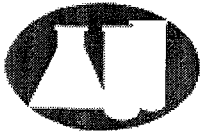
mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 24 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71905 - Volatiles**

**Blank (AJ71905-BLK1)**

Prepared & Analyzed: 19-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71905-BS1)**

Prepared & Analyzed: 19-Oct-07

Benzene	38.5	0.500	ug/l	40.0		96	75-122			
Ethylbenzene	40.3	0.500	"	40.0		101	75-122			
Toluene	39.4	0.500	"	40.0		98	75-122			
m,p-Xylene	81.6	1.00	"	80.0		102	75-122			
o-Xylene	30.3	1.00	"	40.0		76	75-122			

**Matrix Spike (AJ71905-MS1)**

Source: 7101308-02

Prepared & Analyzed: 19-Oct-07

Benzene	43.5	0.500	ug/l	40.0	4.22	98	75-125			
Ethylbenzene	8.89	0.500	"	40.0	ND	22	75-125			QM-07
Toluene	12.7	0.500	"	40.0	ND	32	75-125			QM-07
m,p-Xylene	4.27	1.00	"	80.0	ND	5	75-125			QM-07
o-Xylene	3.19	1.00	"	40.0	2.14	3	75-125			QM-07

**Matrix Spike Dup (AJ71905-MSD1)**

Source: 7101308-02

Prepared & Analyzed: 19-Oct-07

Benzene	52.5	0.500	ug/l	40.0	4.22	121	75-125	19	20	
Ethylbenzene	7.87	0.500	"	40.0	ND	20	75-125	12	20	QM-07
Toluene	9.11	0.500	"	40.0	ND	23	75-125	33	20	QM-07
m,p-Xylene	2.83	1.00	"	80.0	ND	4	75-125	41	20	QM-07
o-Xylene	3.31	1.00	"	40.0	2.14	3	75-125	4	20	QM-07

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Report Page 25 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ72601 - Volatiles**

**Blank (AJ72601-BLK1)**

Prepared: 26-Oct-07 Analyzed: 26-Nov-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ72601-BS1)**

Prepared & Analyzed: 26-Oct-07

Benzene	42.3	0.500	ug/l	40.0		106	75-122			
Ethylbenzene	40.6	0.500	"	40.0		101	75-122			
Toluene	42.9	0.500	"	40.0		107	75-122			
m,p-Xylene	78.7	1.00	"	80.0		98	75-122			
o-Xylene	28.0	1.00	"	40.0		70	75-122			

**Matrix Spike (AJ72601-MS1)**

Source: 7102513-01

Prepared: 26-Oct-07 Analyzed: 27-Oct-07

Benzene	50.3	0.500	ug/l	40.0	ND	126	75-125			
Ethylbenzene	42.2	0.500	"	40.0	ND	105	75-125			
Toluene	46.4	0.500	"	40.0	ND	116	75-125			
m,p-Xylene	81.1	1.00	"	80.0	ND	101	75-125			
o-Xylene	29.6	1.00	"	40.0	ND	74	75-125			

**Matrix Spike Dup (AJ72601-MSD1)**

Source: 7102513-01

Prepared: 26-Oct-07 Analyzed: 27-Oct-07

Benzene	43.7	0.500	ug/l	40.0	ND	109	75-125	14	20	
Ethylbenzene	40.2	0.500	"	40.0	ND	100	75-125	5	20	
Toluene	66.6	0.500	"	40.0	ND	166	75-125	36	20	
m,p-Xylene	77.5	1.00	"	80.0	ND	97	75-125	5	20	
o-Xylene	28.5	1.00	"	40.0	ND	71	75-125	4	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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Report Page 26 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70206 - Volatiles**

**Blank (AK70206-BLK1)**

Prepared & Analyzed: 02-Nov-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AK70206-BS1)**

Prepared & Analyzed: 02-Nov-07

Benzene	45.8	0.500	ug/l	40.0		114	75-122			
Ethylbenzene	32.4	0.500	"	40.0		81	75-122			
Toluene	40.7	0.500	"	40.0		102	75-122			
m,p-Xylene	61.8	1.00	"	80.0		77	75-122			
o-Xylene	23.2	1.00	"	40.0		58	75-122			

**Matrix Spike (AK70206-MS1)**

Source: 7101306-04

Prepared & Analyzed: 02-Nov-07

Benzene	26.1	0.500	ug/l	40.0	ND	65	75-125			
Ethylbenzene	13.4	0.500	"	40.0	ND	33	75-125			
Toluene	14.5	0.500	"	40.0	ND	36	75-125			
m,p-Xylene	23.8	1.00	"	80.0	ND	30	75-125			
o-Xylene	9.64	1.00	"	40.0	ND	24	75-125			

**Matrix Spike Dup (AK70206-MSD1)**

Source: 7101306-04

Prepared & Analyzed: 02-Nov-07

Benzene	45.0	0.500	ug/l	40.0	ND	112	75-125	53	20	
Ethylbenzene	39.2	0.500	"	40.0	ND	98	75-125	98	20	
Toluene	39.2	0.500	"	40.0	ND	98	75-125	92	20	
m,p-Xylene	74.5	1.00	"	80.0	ND	93	75-125	103	20	
o-Xylene	27.0	1.00	"	40.0	ND	67	75-125	95	20	

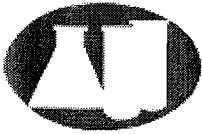
mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 27 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70209 - Volatiles**

**Blank (AK70209-BLK1)**

Prepared & Analyzed: 02-Nov-07

tert-Butyl Alcohol (TBA)	ND	50.0	ug/kg							
Methyl tert-butyl Ether (MtBE)	ND	5.00	"							
Diisopropyl Ether (DIPE)	ND	5.00	"							
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	"							
tert-Amyl Methyl Ether (TAME)	ND	5.00	"							
1,2-Dibromoethane (EDB)	ND	5.00	"							
1,2-Dichloroethane	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Benzene	ND	5.00	"							
Toluene	ND	5.00	"							
m,p-Xylene	ND	5.00	"							
o-Xylene	ND	5.00	"							

**LCS (AK70209-BS1)**

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	54.5	5.00	ug/kg	40.0		136	75-122			
Ethylbenzene	32.4	5.00	"	40.0		81	75-125			
Benzene	45.8	5.00	"	40.0		114	75-125			
Toluene	40.7	5.00	"	40.0		102	75-125			
m,p-Xylene	61.8	5.00	"	80.0		77	75-125			
o-Xylene	23.2	5.00	"	40.0		58	75-125			

**Matrix Spike (AK70209-MS1)**

Source: 7101308-05

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	42.1	5.00	ug/kg	40.0	ND	105	0-200			
Ethylbenzene	13.4	5.00	"	40.0	ND	33	0-200			
Benzene	26.1	5.00	"	40.0	0.00	65	75-125			
Toluene	14.5	5.00	"	40.0	ND	36	75-125			
m,p-Xylene	23.8	5.00	"	80.0	ND	30	0-200			
o-Xylene	9.64	5.00	"	40.0	ND	24	0-200			

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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 28 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70209 - Volatiles**

Matrix Spike Dup (AK70209-MSD1)	Source: 7101308-05			Prepared & Analyzed: 02-Nov-07						
1,2-Dichloroethane	55.9	5.00	ug/kg	40.0	ND	140	0-200	28	200	
Ethylbenzene	39.2	5.00	"	40.0	ND	98	0-200	98	200	
Benzene	45.0	5.00	"	40.0	0.00	112	75-125	53	20	
Toluene	39.2	5.00	"	40.0	ND	98	75-125	92	20	
m,p-Xylene	74.5	5.00	"	80.0	ND	93	0-200	103	200	
o-Xylene	27.0	5.00	"	40.0	ND	67	0-200	95	200	

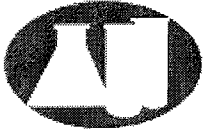
mg/L = milligrams per Liter = ppm  
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**Attention:** James Jacobs  
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Mill Valley, CA 94941

Report Page 29 of 33

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71310 - General Preparation**

Blank (AJ71310-BLK1)

Prepared & Analyzed: 13-Oct-07

Bromate	ND	0.100	mg/L							
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Attention: James Jacobs  
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Report Page 30 of 33

**Total Petroleum Hydrocarbons-Gasoline - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71304 - Volatiles</b>										
<b>Blank (AJ71304-BLK1)</b>										
Prepared & Analyzed: 13-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	61.0		"	50.0		122	75-125			
<b>LCS (AJ71304-BS1)</b>										
Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	1810	100	ug/l	2000		90	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ71304-MS1)</b>										
Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ71304-MSD1)</b>										
Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125	0.08	20	
Surrogate: 4-Bromofluorobenzene	55.0		"	50.0		110	75-125			
<b>Batch AJ71906 - Volatiles</b>										
<b>Blank (AJ71906-BLK1)</b>										
Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	62.4		"	50.0		125	70-125			
<b>LCS (AJ71906-BS1)</b>										
Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	2120	100	ug/l	2000		106	70-125			
Surrogate: 4-Bromofluorobenzene	49.0		"	50.0		98	70-125			
<b>Matrix Spike (AJ71906-MS1)</b>										
Source: 7101308-02 Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	7310	100	ug/l	2000	5830	74	70-125			
Surrogate: 4-Bromofluorobenzene	61.1		"	50.0		122	70-125			

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ug/L = micrograms per Liter = ppb

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RESPECTFULLY SUBMITTED,

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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 31 of 33

**Total Petroleum Hydrocarbons-Gasoline - Quality Control**  
**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71906 - Volatiles</b>										
<b>Matrix Spike Dup (AJ71906-MSD1)</b>		<b>Source: 7101308-02</b>			<b>Prepared &amp; Analyzed: 19-Oct-07</b>					
TPH-Gasoline	7320	100	ug/l	2000	5830	75	70-125	0.1	20	
Surrogate: 4-Bromofluorobenzene	57.2		"	50.0		114	70-125			
<b>Batch AJ72602 - Volatiles</b>										
<b>Blank (AJ72602-BLK1)</b>		<b>Prepared &amp; Analyzed: 26-Oct-07</b>								
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	47.0		"	50.0		94	75-125			
<b>LCS (AJ72602-BS1)</b>		<b>Prepared &amp; Analyzed: 26-Oct-07</b>								
TPH-Gasoline	1950	100	ug/l	2000		98	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ72602-MS1)</b>		<b>Source: 7102508-01</b>			<b>Prepared: 26-Oct-07 Analyzed: 27-Oct-07</b>					
TPH-Gasoline	1860	100	ug/l	2000	0.00	93	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ72602-MSD1)</b>		<b>Source: 7102508-01</b>			<b>Prepared: 26-Oct-07 Analyzed: 27-Oct-07</b>					
TPH-Gasoline	1820	100	ug/l	2000	0.00	91	75-125	2	20	
Surrogate: 4-Bromofluorobenzene	52.0		"	50.0		104	75-125			

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

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result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

Attention: James Jacobs  
EBS / Environmental BioSystems  
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Mill Valley, CA 94941

Report Page 32 of 33

**Total Petroleum Hydrocarbons-Diesel Range - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ72603 - Solvent Extraction**

**Blank (AJ72603-BLK1)**

Prepared: 26-Oct-07 Analyzed: 27-Nov-07

TPH-Diesel	ND	100	ug/l							
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mg/L = milligrams per Liter = ppm  
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**PRECISION**  
**ENVIRO-TECH**  
*Analytical Laboratory*

**CERTIFICATE OF ANALYSIS**

*Tuesday, November 27, 2007*

**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

*Report Page 33 of 33*

**Notes and Definitions**

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

*mg/L = milligrams per Liter = ppm*  
*ug/L = micrograms per Liter = ppb*

*DLR = Detection Limit for Purpose of Reporting.*  
*Exceptional sample matrices or interferences may*  
*result in higher detection limits.*

RESPECTFULLY SUBMITTED,

A handwritten signature in cursive script, likely belonging to Jonathan Le.

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497

## CASE 2



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 1 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-2-1 Case 2 T=1

**Laboratory ID:** 7101307-01

**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	304000	5.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	8000	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	196	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Benzene	7.50	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
m,p-Xylene	1.07	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
o-Xylene	2.33	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		90 %		70-125					
Surrogate: Dibromofluoromethane		105 %		70-125					
Surrogate: 4-Bromofluorobenzene		92 %		70-125					

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 2 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-2-1 Case 2 T=1  
**Laboratory ID:** 7101307-01  
**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	9460	100	ug/l	1	AJ71304	13-Oct-07	14-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		92 %		75-125					

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RESPECTFULLY SUBMITTED,

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 3 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-2-1 Case 2 T=1  
**Laboratory ID:** 7101307-01  
**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	9280	100	ug/l	1	AJ71306	13-Oct-07	07-Nov-07	LUFT GC/MS	

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RESPECTFULLY SUBMITTED,

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 4 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-2-7 Case 2 T=7

**Laboratory ID:** 7101307-02

**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	252000	5.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	3310	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
o-Xylene	2.18	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		82 %		70-125					
Surrogate: Dibromofluoromethane		108 %		70-125					
Surrogate: 4-Bromofluorobenzene		102 %		70-125					

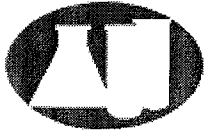
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 5 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-2-7 Case 2 T=7

**Laboratory ID:** 7101307-02

**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	10900	100	ug/l	1	AJ71906	19-Oct-07	19-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		102 %		70-125					

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 Mill Valley, CA 94941

Report Page 6 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-2-7 Case 2 T=7  
**Laboratory ID:** 7101307-02  
**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	1200	100	ug/l	1	AJ71907	19-Oct-07	08-Nov-07	LUFT GC/MS	

mg/L = milligrams per Liter = ppm  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 7 of 33

**Volatile Organic Compounds by EPA Method 8260B**

**Sample Information**

**Sample ID:** EGC-2-14 Case 2 T=14

**Laboratory ID:** 7101307-03

**Date/Time Sampled:** 26-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Acohol (TBA)	89800	5.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	89.4	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
1,2-Dichloroethane	6.98	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
o-Xylene	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		89 %		70-125					
Surrogate: Dibromofluoromethane		104 %		70-125					
Surrogate: 4-Bromofluorobenzene		89 %		70-125					

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 8 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-2-14 Case 2 T=14  
**Laboratory ID:** 7101307-03  
**Date/Time Sampled:** 26-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	1390	100	ug/l	1	AJ72602	26-Oct-07	26-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		89 %		75-125					

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 9 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-2-14 Case 2 T=14  
**Laboratory ID:** 7101307-03  
**Date/Time Sampled:** 26-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Diesel	ND	100	ug/l	1	AJ72603	26-Oct-07	27-Nov-07	LUFT GC/MS	

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

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**Attention:** James Jacobs  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 10 of 33

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-04

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Chromium (VI)	ND	2.00	ug/l	1	AK70215	02-Nov-07	02-Nov-07	EPA 7196A	

mg/L = milligrams per Liter = ppm  
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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 11 of 33

**Metals by EPA 200 Series Methods**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-04

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Arsenic	0.538	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Barium	0.111	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Cadmium	ND	0.0100	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Chromium	0.383	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Mercury	ND	1.0	ug/l	1	AK70507	05-Nov-07	05-Nov-07	EPA 200.8	
Manganese	19.5	0.0200	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Lead	0.108	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Selenium	0.0642	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	

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ug/L = micrograms per Liter = ppb

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 12 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-04

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	5370	5.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	7.47	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
o-Xylene	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Surrogate: Toluene-d8		97 %		70-125					
Surrogate: Dibromofluoromethane		110 %		70-125					
Surrogate: 4-Bromofluorobenzene		107 %		70-125					

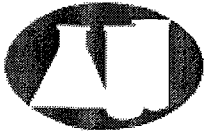
mg/L = milligrams per Liter = ppm  
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 13 of 33

**Conventional Chemistry Parameters by APHA/EPA Methods**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-04

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Bromate	ND	0.100	mg/L	1	AJ71310	13-Oct-07	13-Oct-07	EPA 300.0	

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ug/L = micrograms per Liter = ppb

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**Attention:** James Jacobs  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 14 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-04

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	100	ug/l	1	AK70210	02-Nov-07	02-Nov-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		107 %		75-125					

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

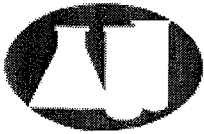
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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 15 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-04

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	ND	100	ug/l	1	AK70212	02-Nov-07	08-Nov-07	LUFT GC/MS	

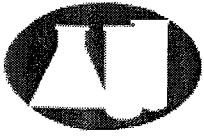
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**Attention:** James Jacobs  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 16 of 33

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-05

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
Arsenic	19.8	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Barium	156	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Cadmium	ND	0.100	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Chromium	31.8	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Chromium (VI)	ND	2.00	ug/l	1	AK70215	02-Nov-07	02-Nov-07	EPA 7196A	
Mercury	0.262	0.100	mg/kg	1	AK72605	12-Nov-07	12-Nov-07	EPA 6020	
Manganese	270	0.50	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Lead	5.06	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Selenium	ND	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

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**Attention:** James Jacobs  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 17 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-05

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	1150	50.0	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dichloroethane	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Ethylbenzene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Benzene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Toluene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
m,p-Xylene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
o-Xylene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Surrogate: Dibromofluoromethane		105 %		80-120					
Surrogate: Toluene-d8		128 %		81-117					
Surrogate: 4-Bromofluorobenzene		105 %		74-121					

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 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 18 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-05

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	200	ug/kg	1	AK70211	02-Nov-07	02-Nov-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		105 %	75-125						

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 19 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-2-21-W Case 2 T=21

**Laboratory ID:** 7101307-05

**Date/Time Sampled:** 02-Nov-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	ND	1.00	mg/kg	1	AK70213	02-Nov-07	08-Nov-07	EPA 8015M	

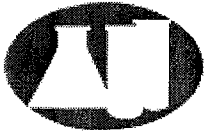
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Report Page 20 of 33

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AK70215 - General Preparation</b>										
<b>Blank (AK70215-BLK1)</b> Prepared & Analyzed: 02-Nov-07										
Chromium (VI)	ND	2.00	ug/l							
<b>Batch AK70303 - EPA 3050B</b>										
<b>Blank (AK70303-BLK1)</b> Prepared & Analyzed: 03-Nov-07										
Lead	ND	0.100	mg/kg							
Manganese	ND	0.10	"							
Chromium	ND	0.100	"							
Barium	ND	0.100	"							
Arsenic	ND	0.100	"							
Cadmium	ND	0.0200	"							
Selenium	ND	0.100	"							
<b>LCS (AK70303-BS1)</b> Prepared & Analyzed: 03-Nov-07										
Lead	9.97	0.100	mg/kg	10.0		100	80-120			
Cadmium	9.95	0.0200	"	10.0		99	80-120			
Selenium	10.1	0.100	"	10.0		101	80-120			
Manganese	10.1	0.10	"	10.0		101	80-120			
Arsenic	9.84	0.100	"	10.0		98	80-120			
Barium	9.99	0.100	"	10.0		100	80-120			
Chromium	9.99	0.100	"	10.0		100	80-120			
<b>Matrix Spike (AK70303-MS1)</b> Source: 7101307-05 Prepared & Analyzed: 03-Nov-07										
Selenium	7.16	0.100	mg/kg	10.0	ND	72	70-125			
Cadmium	9.71	0.0200	"	10.0	ND	97	75-125			
<b>Matrix Spike Dup (AK70303-MSD1)</b> Source: 7101307-05 Prepared & Analyzed: 03-Nov-07										
Selenium	7.06	0.100	mg/kg	10.0	ND	71	70-125	1	20	
Cadmium	9.93	0.0200	"	10.0	ND	99	75-125	2	20	

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Mill Valley, CA 94941

Report Page 21 of 33

**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ73104 - EPA 3020A**

**Blank (AJ73104-BLK1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Arsenic	ND	0.0500	mg/L							
Selenium	ND	0.0500	"							
Lead	ND	0.0500	"							
Chromium	ND	0.0500	"							
Manganese	ND	0.0200	"							
Barium	ND	0.0500	"							
Cadmium	ND	0.0100	"							

**LCS (AJ73104-BS1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Cadmium	1.00	0.0100	mg/L	1.00		100	80-120			
Lead	1.05	0.0500	"	1.00		105	80-120			
Arsenic	0.842	0.0500	"	1.00		84	80-120			
Selenium	1.06	0.0500	"	1.00		106	80-120			
Barium	1.04	0.0500	"	1.00		104	80-120			
Manganese	1.02	0.0200	"	1.00		102	85-115			
Chromium	1.02	0.0500	"	1.00		102	80-120			

**Matrix Spike (AJ73104-MS1)**

Source: 7103009-01

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Selenium	1.14	0.0500	mg/L	1.00	ND	114	80-120			
Manganese	3.24	0.0200	"	1.00	2.14	110	75-125			
Lead	1.33	0.0500	"	1.00	0.0751	125	80-120			
Arsenic	1.10	0.0500	"	1.00	ND	110	80-120			
Cadmium	1.06	0.0100	"	1.00	ND	106	80-120			
Barium	1.10	0.0500	"	1.00	ND	110	80-120			
Chromium	1.39	0.0500	"	1.00	0.0263	136	80-120			

**Matrix Spike Dup (AJ73104-MSD1)**

Source: 7103009-01

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Arsenic	1.12	0.0500	mg/L	1.00	ND	112	80-120	2	20	
Manganese	3.21	0.0200	"	1.00	2.14	108	75-125	0.8	20	
Selenium	1.14	0.0500	"	1.00	ND	114	80-120	0.5	20	
Chromium	1.38	0.0500	"	1.00	0.0263	136	80-120	0.2	20	
Barium	1.10	0.0500	"	1.00	ND	110	80-120	0.3	20	
Lead	1.31	0.0500	"	1.00	0.0751	124	80-120	1	20	
Cadmium	1.06	0.0100	"	1.00	ND	106	80-120	0.1	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

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**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ73104 - EPA 3020A**

Reference (AJ73104-SRMI)

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Lead	0.610	0.0500	mg/L	0.500		122	85-125			
Selenium	0.597	0.0500	"	0.500		119	85-125			
Chromium	0.597	0.0500	"	0.500		119	85-125			
Arsenic	0.429	0.0500	"	0.500		86	85-125			
Cadmium	0.577	0.0100	"	0.500		115	85-125			
Manganese	0.599	0.0200	"	0.500		120	85-125			

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

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**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71302 - Volatiles**

**Blank (AJ71302-BLK1)**

Prepared & Analyzed: 13-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71302-BS1)**

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	44.6	0.500	ug/l	40.0		111	75-122			
Ethylbenzene	40.9	0.500	"	40.0		102	75-122			
Toluene	39.9	0.500	"	40.0		100	75-122			
m,p-Xylene	78.5	1.00	"	80.0		98	75-122			
o-Xylene	29.7	1.00	"	40.0		74	75-122			

**Matrix Spike (AJ71302-MS1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	75.6	0.500	ug/l	40.0	40.2	88	75-125			
Ethylbenzene	42.6	0.500	"	40.0	ND	107	75-125			
Toluene	35.2	0.500	"	40.0	0.590	86	75-125			
m,p-Xylene	78.5	1.00	"	80.0	ND	98	75-125			
o-Xylene	26.1	1.00	"	40.0	2.27	60	75-125			

**Matrix Spike Dup (AJ71302-MSD1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	51.0	0.500	ug/l	40.0	40.2	27	75-125	39	20	
Ethylbenzene	44.6	0.500	"	40.0	ND	112	75-125	5	20	
Toluene	38.1	0.500	"	40.0	0.590	94	75-125	8	20	
m,p-Xylene	83.5	1.00	"	80.0	ND	104	75-125	6	20	
o-Xylene	27.9	1.00	"	40.0	2.27	64	75-125	7	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71905 - Volatiles**

**Blank (AJ71905-BLK1)**

Prepared & Analyzed: 19-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71905-BS1)**

Prepared & Analyzed: 19-Oct-07

Benzene	38.5	0.500	ug/l	40.0		96	75-122			
Ethylbenzene	40.3	0.500	"	40.0		101	75-122			
Toluene	39.4	0.500	"	40.0		98	75-122			
m,p-Xylene	81.6	1.00	"	80.0		102	75-122			
o-Xylene	30.3	1.00	"	40.0		76	75-122			

**Matrix Spike (AJ71905-MS1)**

Source: 7101308-02

Prepared & Analyzed: 19-Oct-07

Benzene	43.5	0.500	ug/l	40.0	4.22	98	75-125			
Ethylbenzene	8.89	0.500	"	40.0	ND	22	75-125			QM-07
Toluene	12.7	0.500	"	40.0	ND	32	75-125			QM-07
m,p-Xylene	4.27	1.00	"	80.0	ND	5	75-125			QM-07
o-Xylene	3.19	1.00	"	40.0	2.14	3	75-125			QM-07

**Matrix Spike Dup (AJ71905-MSD1)**

Source: 7101308-02

Prepared & Analyzed: 19-Oct-07

Benzene	52.5	0.500	ug/l	40.0	4.22	121	75-125	19	20	
Ethylbenzene	7.87	0.500	"	40.0	ND	20	75-125	12	20	QM-07
Toluene	9.11	0.500	"	40.0	ND	23	75-125	33	20	QM-07
m,p-Xylene	2.83	1.00	"	80.0	ND	4	75-125	41	20	QM-07
o-Xylene	3.31	1.00	"	40.0	2.14	3	75-125	4	20	QM-07

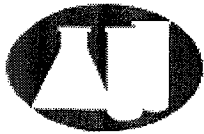
mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
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result in higher detection limits.

RESPECTFULLY SUBMITTED,

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**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD RPD	Notes
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**Batch AJ72601 - Volatiles**

**Blank (AJ72601-BLK1)**

Prepared: 26-Oct-07 Analyzed: 26-Nov-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l						
Methyl tert-butyl Ether (MtBE)	ND	0.500	"						
Diisopropyl Ether (DIPE)	ND	0.500	"						
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"						
tert-Amyl Methyl Ether (TAME)	ND	0.500	"						
1,2-Dibromoethane (EDB)	ND	0.500	"						
1,2-Dichloroethane	ND	1.00	"						
Benzene	ND	0.500	"						
Ethylbenzene	ND	0.500	"						
Toluene	ND	0.500	"						
m,p-Xylene	ND	1.00	"						
o-Xylene	ND	1.00	"						

**LCS (AJ72601-BS1)**

Prepared & Analyzed: 26-Oct-07

Benzene	42.3	0.500	ug/l	40.0		106	75-122		
Ethylbenzene	40.6	0.500	"	40.0		101	75-122		
Toluene	42.9	0.500	"	40.0		107	75-122		
m,p-Xylene	78.7	1.00	"	80.0		98	75-122		
o-Xylene	28.0	1.00	"	40.0		70	75-122		

**Matrix Spike (AJ72601-MS1)**

Source: 7102513-01

Prepared: 26-Oct-07 Analyzed: 27-Oct-07

Benzene	50.3	0.500	ug/l	40.0	ND	126	75-125		
Ethylbenzene	42.2	0.500	"	40.0	ND	105	75-125		
Toluene	46.4	0.500	"	40.0	ND	116	75-125		
m,p-Xylene	81.1	1.00	"	80.0	ND	101	75-125		
o-Xylene	29.6	1.00	"	40.0	ND	74	75-125		

**Matrix Spike Dup (AJ72601-MSD1)**

Source: 7102513-01

Prepared: 26-Oct-07 Analyzed: 27-Oct-07

Benzene	43.7	0.500	ug/l	40.0	ND	109	75-125	14	20
Ethylbenzene	40.2	0.500	"	40.0	ND	100	75-125	5	20
Toluene	66.6	0.500	"	40.0	ND	166	75-125	36	20
m,p-Xylene	77.5	1.00	"	80.0	ND	97	75-125	5	20
o-Xylene	28.5	1.00	"	40.0	ND	71	75-125	4	20

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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Report Page 26 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70206 - Volatiles**

**Blank (AK70206-BLK1)**

Prepared & Analyzed: 02-Nov-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AK70206-BS1)**

Prepared & Analyzed: 02-Nov-07

Benzene	45.8	0.500	ug/l	40.0		114	75-125			
Ethylbenzene	32.4	0.500	"	40.0		81	75-125			
Toluene	40.7	0.500	"	40.0		102	75-125			
m,p-Xylene	61.8	1.00	"	80.0		77	75-125			
o-Xylene	23.2	1.00	"	40.0		58	75-125			

**Matrix Spike (AK70206-MS1)**

Source: 7101306-04

Prepared & Analyzed: 02-Nov-07

Benzene	26.1	0.500	ug/l	40.0	ND	65	75-125			
Ethylbenzene	13.4	0.500	"	40.0	ND	33	75-125			
Toluene	14.5	0.500	"	40.0	ND	36	75-125			
m,p-Xylene	23.8	1.00	"	80.0	ND	30	75-125			
o-Xylene	9.64	1.00	"	40.0	ND	24	75-125			

**Matrix Spike Dup (AK70206-MSD1)**

Source: 7101306-04

Prepared & Analyzed: 02-Nov-07

Benzene	45.0	0.500	ug/l	40.0	ND	112	75-125	53	20	
Ethylbenzene	39.2	0.500	"	40.0	ND	98	75-125	98	20	
Toluene	39.2	0.500	"	40.0	ND	98	75-125	92	20	
m,p-Xylene	74.5	1.00	"	80.0	ND	93	75-125	103	20	
o-Xylene	27.0	1.00	"	40.0	ND	67	75-125	95	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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Report Page 27 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70209 - Volatiles**

**Blank (AK70209-BLK1)**

Prepared & Analyzed: 02-Nov-07

tert-Butyl Alcohol (TBA)	ND	50.0	ug/kg							
Methyl tert-butyl Ether (MtBE)	ND	5.00	"							
Diisopropyl Ether (DIPE)	ND	5.00	"							
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	"							
tert-Amyl Methyl Ether (TAME)	ND	5.00	"							
1,2-Dibromoethane (EDB)	ND	5.00	"							
1,2-Dichloroethane	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Benzene	ND	5.00	"							
Toluene	ND	5.00	"							
m,p-Xylene	ND	5.00	"							
o-Xylene	ND	5.00	"							

**LCS (AK70209-BS1)**

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	54.5	5.00	ug/kg	40.0		136	75-122			
Ethylbenzene	32.4	5.00	"	40.0		81	75-125			
Benzene	45.8	5.00	"	40.0		114	75-125			
Toluene	40.7	5.00	"	40.0		102	75-125			
m,p-Xylene	61.8	5.00	"	80.0		77	75-125			
o-Xylene	23.2	5.00	"	40.0		58	75-125			

**Matrix Spike (AK70209-MS1)**

Source: 7101308-05

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	42.1	5.00	ug/kg	40.0	ND	105	0-200			
Ethylbenzene	13.4	5.00	"	40.0	ND	33	0-200			
Benzene	26.1	5.00	"	40.0	0.00	65	75-125			
Toluene	14.5	5.00	"	40.0	ND	36	75-125			
m,p-Xylene	23.8	5.00	"	80.0	ND	30	0-200			
o-Xylene	9.64	5.00	"	40.0	ND	24	0-200			

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
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 result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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707 View Pt Rd  
Mill Valley, CA 94941

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**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70209 - Volatiles**

**Matrix Spike Dup (AK70209-MSD1)**

Source: 7101308-05

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	55.9	5.00	ug/kg	40.0	ND	140	0-200	28	200	
Ethylbenzene	39.2	5.00	"	40.0	ND	98	0-200	98	200	
Benzene	45.0	5.00	"	40.0	0.00	112	75-125	53	20	
Toluene	39.2	5.00	"	40.0	ND	98	75-125	92	20	
m,p-Xylene	74.5	5.00	"	80.0	ND	93	0-200	103	200	
o-Xylene	27.0	5.00	"	40.0	ND	67	0-200	95	200	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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Mill Valley, CA 94941

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**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71310 - General Preparation**

**Blank (AJ71310-BLK1)**

Prepared & Analyzed: 13-Oct-07

Bromate	ND	0.100	mg/L							
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mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
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**Total Petroleum Hydrocarbons-Gasoline - Quality Control**  
**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71304 - Volatiles</b>										
<b>Blank (AJ71304-BLK1)</b> Prepared & Analyzed: 13-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	61.0		"	50.0		122	75-125			
<b>LCS (AJ71304-BS1)</b> Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	1810	100	ug/l	2000		90	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ71304-MS1)</b> Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ71304-MSD1)</b> Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125	0.08	20	
Surrogate: 4-Bromofluorobenzene	55.0		"	50.0		110	75-125			
<b>Batch AJ71906 - Volatiles</b>										
<b>Blank (AJ71906-BLK1)</b> Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	62.4		"	50.0		125	70-125			
<b>LCS (AJ71906-BS1)</b> Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	2120	100	ug/l	2000		106	70-125			
Surrogate: 4-Bromofluorobenzene	49.0		"	50.0		98	70-125			
<b>Matrix Spike (AJ71906-MS1)</b> Source: 7101308-02 Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	7310	100	ug/l	2000	5830	74	70-125			
Surrogate: 4-Bromofluorobenzene	61.1		"	50.0		122	70-125			

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

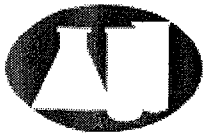
DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497





**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 31 of 33

**Total Petroleum Hydrocarbons-Gasoline - Quality Control  
Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71906 - Volatiles</b>										
<b>Matrix Spike Dup (AJ71906-MSD1)</b>		<b>Source: 7101308-02</b>			<b>Prepared &amp; Analyzed: 19-Oct-07</b>					
TPH-Gasoline	7320	100	ug/l	2000	5830	75	70-125	0.1	20	
Surrogate: 4-Bromofluorobenzene	57.2		"	50.0		114	70-125			
<b>Batch AJ72602 - Volatiles</b>										
<b>Blank (AJ72602-BLK1)</b>		<b>Prepared &amp; Analyzed: 26-Oct-07</b>								
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	47.0		"	50.0		94	75-125			
<b>LCS (AJ72602-BS1)</b>		<b>Prepared &amp; Analyzed: 26-Oct-07</b>								
TPH-Gasoline	1950	100	ug/l	2000		98	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ72602-MS1)</b>		<b>Source: 7102508-01</b>			<b>Prepared: 26-Oct-07 Analyzed: 27-Oct-07</b>					
TPH-Gasoline	1860	100	ug/l	2000	0.00	93	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ72602-MSD1)</b>		<b>Source: 7102508-01</b>			<b>Prepared: 26-Oct-07 Analyzed: 27-Oct-07</b>					
TPH-Gasoline	1820	100	ug/l	2000	0.00	91	75-125	2	20	
Surrogate: 4-Bromofluorobenzene	52.0		"	50.0		104	75-125			

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

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result in higher detection limits.

RESPECTFULLY SUBMITTED,

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Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 32 of 33

**Total Petroleum Hydrocarbons-Diesel Range - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ72603 - Solvent Extraction**

Blank (AJ72603-BLK1)

Prepared: 26-Oct-07 Analyzed: 27-Nov-07

TPH-Diesel	ND	100	ug/l							
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mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 33 of 33

**Notes and Definitions**

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

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result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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## CASE 3



**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 1 of 33

**Volatile Organic Compounds by EPA Method 8260B**

**Sample Information**

**Sample ID:** EGC-3-1 Case 3 T=1

**Laboratory ID:** 7101308-01

**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Acohol (TBA)	230000	5.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	6390	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	212	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Benzene	40.2	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Toluene	0.590	0.500	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
o-Xylene	2.27	1.00	ug/l	1	AJ71302	13-Oct-07	14-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		107 %		70-125					
Surrogate: Dibromofluoromethane		98 %		70-125					
Surrogate: 4-Bromofluorobenzene		123 %		70-125					

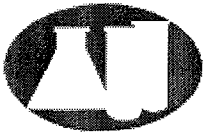
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 2 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-3-1 Case 3 T=1

**Laboratory ID:** 7101308-01

**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	9800	100	ug/l	1	AJ71304	13-Oct-07	14-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		122 %		75-125					

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 3 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-3-1 Case 3 T=1  
**Laboratory ID:** 7101308-01  
**Date/Time Sampled:** 13-Oct-07 06:30 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	8920	100	ug/l	1	AJ71306	13-Oct-07	08-Nov-07	LUFT GC/MS	

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

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Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 4 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-3-7 Case 3 T=7  
**Laboratory ID:** 7101308-02  
**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	131000	5.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	1410	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Benzene	4.22	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
o-Xylene	2.14	1.00	ug/l	1	AJ71905	19-Oct-07	19-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		54 %		70-125					
Surrogate: Dibromofluoromethane		104 %		70-125					
Surrogate: 4-Bromofluorobenzene		103 %		70-125					

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

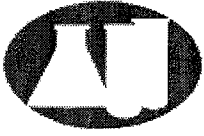
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497





**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 5 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-3-7 Case 3 T=7  
**Laboratory ID:** 7101308-02  
**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	5830	100	ug/l	1	AJ71906	19-Oct-07	19-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		103 %		70-125					

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 6 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-3-7 Case 3 T=7  
**Laboratory ID:** 7101308-02  
**Date/Time Sampled:** 19-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	ND	100	ug/l	1	AJ71907	19-Oct-07	08-Nov-07	LUFT GC/MS	

mg/L = milligrams per Liter = ppm  
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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 7 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-3-14 Case 3 T=14

**Laboratory ID:** 7101308-03

**Date/Time Sampled:** 26-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	10700	5.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	20.4	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
o-Xylene	ND	1.00	ug/l	1	AJ72601	26-Oct-07	26-Oct-07	EPA 8260B	
Surrogate: Toluene-d8		93 %		70-125					
Surrogate: Dibromofluoromethane		37 %		70-125					
Surrogate: 4-Bromofluorobenzene		96 %		70-125					

mg/L = milligrams per Liter = ppm  
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RESPECTFULLY SUBMITTED,

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 8 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-3-14 Case 3 T=14  
**Laboratory ID:** 7101308-03  
**Date/Time Sampled:** 26-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Gasoline	482	100	ug/l	1	AJ72602	26-Oct-07	26-Oct-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		96 %		75-125					

mg/L = milligrams per Liter = ppm  
 ug/L = micrograms per Liter = ppb

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 Exceptional sample matrices or interferences may  
 result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 9 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-3-14 Case 3 T=14  
**Laboratory ID:** 7101308-03  
**Date/Time Sampled:** 26-Oct-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
TPH-Diesel	ND	100	ug/l	1	AJ72603	26-Oct-07	27-Nov-07	LUFT GC/MS	

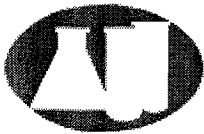
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ug/L = micrograms per Liter = ppb

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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 10 of 33

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Chromium (VI)	ND	2.00	ug/l	1	AK70215	02-Nov-07	02-Nov-07	EPA 7196A	

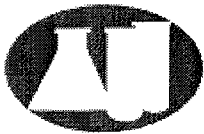
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 11 of 33

**Metals by EPA 200 Series Methods**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Arsenic	0.415	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Barium	0.390	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Cadmium	ND	0.0100	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Chromium	1.05	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Mercury	ND	1.0	ug/l	1	AK70507	05-Nov-07	05-Nov-07	EPA 200.8	
Manganese	ND	0.0200	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Lead	0.0929	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	
Selenium	0.0701	0.0500	mg/L	1	AJ73104	02-Nov-07	05-Nov-07	EPA 200.7	

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Mill Valley, CA 94941

Report Page 12 of 33

**Volatile Organic Compounds by EPA Method 8260B**

**Sample Information**

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Acohol (TBA)	1420	5.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	5.94	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Benzene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Ethylbenzene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Toluene	ND	0.500	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
m,p-Xylene	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
o-Xylene	ND	1.00	ug/l	1	AK70206	02-Nov-07	02-Nov-07	EPA 8260B	
Surrogate: Toluene-d8		105 %		70-125					
Surrogate: Dibromofluoromethane		94 %		70-125					
Surrogate: 4-Bromofluorobenzene		96 %		70-125					

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497





**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 13 of 33

**Conventional Chemistry Parameters by APHA/EPA Methods**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Bromate	ND	0.100	mg/L	1	AJ71310	13-Oct-07	13-Oct-07	EPA 300.0	

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 Mill Valley, CA 94941

Report Page 14 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-04

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	100	ug/l	1	AK70210	02-Nov-07	02-Nov-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		96 %		75-125					

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 15 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21  
**Laboratory ID:** 7101308-04  
**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Water

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Diesel	ND	100	ug/l	1	AK70212	02-Nov-07	08-Nov-07	LUFT GC/MS	

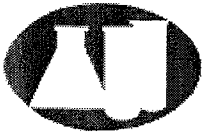
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**Attention:** James Jacobs  
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Mill Valley, CA 94941

Report Page 16 of 33

**Metals by EPA 6000/7000 Series Methods**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

<i>Test Parameter</i>	<i>Result</i>	<i>DLR</i>	<i>Unit</i>	<i>Dilution</i>	<i>Batch</i>	<i>Prepared</i>	<i>Analysis Date</i>	<i>Method</i>	<i>Notes</i>
Arsenic	17.8	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Barium	118	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Cadmium	ND	0.100	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Chromium	26.1	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Chromium (VI)	ND	2.00	ug/l	1	AK70215	02-Nov-07	02-Nov-07	EPA 7196A	
Mercury	0.261	0.100	mg/kg	1	AK72605	12-Nov-07	12-Nov-07	EPA 6020	
Manganese	270	0.50	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Lead	4.07	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	
Selenium	ND	0.500	mg/kg	1	AK70303	03-Nov-07	03-Nov-07	EPA 6010A	

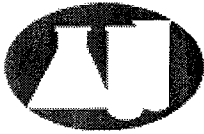
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 707 View Pt Rd  
 Mill Valley, CA 94941

Report Page 17 of 33

**Volatile Organic Compounds by EPA Method 8260B**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
tert-Butyl Alcohol (TBA)	310	50.0	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Methyl tert-butyl Ether (MtBE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
tert-Amyl Methyl Ether (TAME)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
1,2-Dichloroethane	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Ethylbenzene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Benzene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Toluene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
m,p-Xylene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
o-Xylene	ND	5.00	ug/kg	1	AK70209	02-Nov-07	02-Nov-07	EPA 8260B	
Surrogate: Dibromofluoromethane		92 %			80-120				
Surrogate: Toluene-d8		106 %			81-117				
Surrogate: 4-Bromofluorobenzene		97 %			74-121				

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**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 18 of 33

**Total Petroleum Hydrocarbons-Gasoline**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21

**Laboratory ID:** 7101308-05

**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab

**Project Name:** Clearwater / Eagle Gas Oakland

**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Gasoline	ND	200	ug/kg	1	AK70211	02-Nov-07	02-Nov-07	LUFT/GCMS	
Surrogate: 4-Bromofluorobenzene		97 %		75-125					

mg/L = milligrams per Liter = ppm  
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707 View Pt Rd  
Mill Valley, CA 94941

Report Page 19 of 33

**Total Petroleum Hydrocarbons-Diesel Range**

*Sample Information*

**Sample ID:** EGC-3-21-W Case 3 T=21  
**Laboratory ID:** 7101308-05  
**Date/Time Sampled:** 02-Nov-07 06:00 by James Jacobs / Jacques

**Sample Type:** Grab  
**Project Name:** Clearwater / Eagle Gas Oakland  
**Sample Matrix:** Soil

Test Parameter	Result	DLR	Unit	Dilution	Batch	Prepared	Analysis Date	Method	Notes
TPH-Diesel	ND	1.00	mg/kg	1	AK70213	02-Nov-07	08-Nov-07	EPA 8015M	

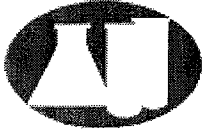
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Mill Valley, CA 94941

Report Page 20 of 33

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AK70215 - General Preparation</b>										
<b>Blank (AK70215-BLK1)</b> Prepared & Analyzed: 02-Nov-07										
Chromium (VI)	ND	2.00	ug/l							
<b>Batch AK70303 - EPA 3050B</b>										
<b>Blank (AK70303-BLK1)</b> Prepared & Analyzed: 03-Nov-07										
Manganese	ND	0.10	mg/kg							
Lead	ND	0.100	"							
Chromium	ND	0.100	"							
Arsenic	ND	0.100	"							
Barium	ND	0.100	"							
Selenium	ND	0.100	"							
Cadmium	ND	0.0200	"							
<b>LCS (AK70303-BS1)</b> Prepared & Analyzed: 03-Nov-07										
Selenium	10.1	0.100	mg/kg	10.0		101	80-120			
Barium	9.99	0.100	"	10.0		100	80-120			
Lead	9.97	0.100	"	10.0		100	80-120			
Arsenic	9.84	0.100	"	10.0		98	80-120			
Cadmium	9.95	0.0200	"	10.0		99	80-120			
Manganese	10.1	0.10	"	10.0		101	80-120			
Chromium	9.99	0.100	"	10.0		100	80-120			
<b>Matrix Spike (AK70303-MS1)</b> Source: 7101307-05 Prepared & Analyzed: 03-Nov-07										
Selenium	7.16	0.100	mg/kg	10.0	ND	72	70-125			
Cadmium	9.71	0.0200	"	10.0	ND	97	75-125			
<b>Matrix Spike Dup (AK70303-MSD1)</b> Source: 7101307-05 Prepared & Analyzed: 03-Nov-07										
Selenium	7.06	0.100	mg/kg	10.0	ND	71	70-125	1	20	
Cadmium	9.93	0.0200	"	10.0	ND	99	75-125	2	20	

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EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 21 of 33

**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ73104 - EPA 3020A**

**Blank (AJ73104-BLK1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Manganese	ND	0.0200	mg/L							
Cadmium	ND	0.0100	"							
Arsenic	ND	0.0500	"							
Chromium	ND	0.0500	"							
Lead	ND	0.0500	"							
Selenium	ND	0.0500	"							
Barium	ND	0.0500	"							

**LCS (AJ73104-BS1)**

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Barium	1.04	0.0500	mg/L	1.00		104	80-120			
Arsenic	0.842	0.0500	"	1.00		84	80-120			
Chromium	1.02	0.0500	"	1.00		102	80-120			
Manganese	1.02	0.0200	"	1.00		102	85-115			
Selenium	1.06	0.0500	"	1.00		106	80-120			
Lead	1.05	0.0500	"	1.00		105	80-120			
Cadmium	1.00	0.0100	"	1.00		100	80-120			

**Matrix Spike (AJ73104-MS1)**

Source: 7103009-01

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Cadmium	1.06	0.0100	mg/L	1.00	ND	106	80-120			
Lead	1.33	0.0500	"	1.00	0.0751	125	80-120			
Chromium	1.39	0.0500	"	1.00	0.0263	136	80-120			
Arsenic	1.10	0.0500	"	1.00	ND	110	80-120			
Manganese	3.24	0.0200	"	1.00	2.14	110	75-125			
Selenium	1.14	0.0500	"	1.00	ND	114	80-120			
Barium	1.10	0.0500	"	1.00	ND	110	80-120			

**Matrix Spike Dup (AJ73104-MSD1)**

Source: 7103009-01

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Arsenic	1.12	0.0500	mg/L	1.00	ND	112	80-120	2	20	
Selenium	1.14	0.0500	"	1.00	ND	114	80-120	0.5	20	
Cadmium	1.06	0.0100	"	1.00	ND	106	80-120	0.1	20	
Manganese	3.21	0.0200	"	1.00	2.14	108	75-125	0.8	20	
Chromium	1.38	0.0500	"	1.00	0.0263	136	80-120	0.2	20	
Barium	1.10	0.0500	"	1.00	ND	110	80-120	0.3	20	
Lead	1.31	0.0500	"	1.00	0.0751	124	80-120	1	20	

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Mill Valley, CA 94941

Report Page 22 of 33

**Metals by EPA 200 Series Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ73104 - EPA 3020A**

Reference (AJ73104-SRM1)

Prepared: 02-Nov-07 Analyzed: 05-Nov-07

Lead	0.610	0.0500	mg/L	0.500		122	85-125			
Arsenic	0.429	0.0500	"	0.500		86	85-125			
Chromium	0.597	0.0500	"	0.500		119	85-125			
Manganese	0.599	0.0200	"	0.500		120	85-125			
Cadmium	0.577	0.0100	"	0.500		115	85-125			
Selenium	0.597	0.0500	"	0.500		119	85-125			

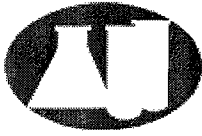
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Report Page 23 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71302 - Volatiles**

**Blank (AJ71302-BLK1)**

Prepared & Analyzed: 13-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71302-BS1)**

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	44.6	0.500	ug/l	40.0		111	75-122			
Ethylbenzene	40.9	0.500	"	40.0		102	75-122			
Toluene	39.9	0.500	"	40.0		100	75-122			
m,p-Xylene	78.5	1.00	"	80.0		98	75-122			
o-Xylene	29.7	1.00	"	40.0		74	75-122			

**Matrix Spike (AJ71302-MS1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	75.6	0.500	ug/l	40.0	40.2	88	75-125			
Ethylbenzene	42.6	0.500	"	40.0	ND	107	75-125			
Toluene	35.2	0.500	"	40.0	0.590	86	75-125			
m,p-Xylene	78.5	1.00	"	80.0	ND	98	75-125			
o-Xylene	26.1	1.00	"	40.0	2.27	60	75-125			

**Matrix Spike Dup (AJ71302-MSD1)**

Source: 7101308-01

Prepared: 13-Oct-07 Analyzed: 14-Oct-07

Benzene	51.0	0.500	ug/l	40.0	40.2	27	75-125	39	20	
Ethylbenzene	44.6	0.500	"	40.0	ND	112	75-125	5	20	
Toluene	38.1	0.500	"	40.0	0.590	94	75-125	8	20	
m,p-Xylene	83.5	1.00	"	80.0	ND	104	75-125	6	20	
o-Xylene	27.9	1.00	"	40.0	2.27	64	75-125	7	20	

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Report Page 24 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71905 - Volatiles**

**Blank (AJ71905-BLK1)**

Prepared & Analyzed: 19-Oct-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ71905-BS1)**

Prepared & Analyzed: 19-Oct-07

Benzene	38.5	0.500	ug/l	40.0		96	75-122			
Ethylbenzene	40.3	0.500	"	40.0		101	75-122			
Toluene	39.4	0.500	"	40.0		98	75-122			
m,p-Xylene	81.6	1.00	"	80.0		102	75-122			
o-Xylene	30.3	1.00	"	40.0		76	75-122			

**Matrix Spike (AJ71905-MS1)**

Source: 7101308-02

Prepared & Analyzed: 19-Oct-07

Benzene	43.5	0.500	ug/l	40.0	4.22	98	75-125			
Ethylbenzene	8.89	0.500	"	40.0	ND	22	75-125			QM-07
Toluene	12.7	0.500	"	40.0	ND	32	75-125			QM-07
m,p-Xylene	4.27	1.00	"	80.0	ND	5	75-125			QM-07
o-Xylene	3.19	1.00	"	40.0	2.14	3	75-125			QM-07

**Matrix Spike Dup (AJ71905-MSD1)**

Source: 7101308-02

Prepared & Analyzed: 19-Oct-07

Benzene	52.5	0.500	ug/l	40.0	4.22	121	75-125	19	20	
Ethylbenzene	7.87	0.500	"	40.0	ND	20	75-125	12	20	QM-07
Toluene	9.11	0.500	"	40.0	ND	23	75-125	33	20	QM-07
m,p-Xylene	2.83	1.00	"	80.0	ND	4	75-125	41	20	QM-07
o-Xylene	3.31	1.00	"	40.0	2.14	3	75-125	4	20	QM-07

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 25 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ72601 - Volatiles**

**Blank (AJ72601-BLK1)**

Prepared: 26-Oct-07 Analyzed: 26-Nov-07

tert-Butyl Acohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AJ72601-BS1)**

Prepared & Analyzed: 26-Oct-07

Benzene	42.3	0.500	ug/l	40.0		106	75-122			
Ethylbenzene	40.6	0.500	"	40.0		101	75-122			
Toluene	42.9	0.500	"	40.0		107	75-122			
m,p-Xylene	78.7	1.00	"	80.0		98	75-122			
o-Xylene	28.0	1.00	"	40.0		70	75-122			

**Matrix Spike (AJ72601-MS1)**

Source: 7102513-01

Prepared: 26-Oct-07 Analyzed: 27-Oct-07

Benzene	50.3	0.500	ug/l	40.0	ND	126	75-125			
Ethylbenzene	42.2	0.500	"	40.0	ND	105	75-125			
Toluene	46.4	0.500	"	40.0	ND	116	75-125			
m,p-Xylene	81.1	1.00	"	80.0	ND	101	75-125			
o-Xylene	29.6	1.00	"	40.0	ND	74	75-125			

**Matrix Spike Dup (AJ72601-MSD1)**

Source: 7102513-01

Prepared: 26-Oct-07 Analyzed: 27-Oct-07

Benzene	43.7	0.500	ug/l	40.0	ND	109	75-125	14	20	
Ethylbenzene	40.2	0.500	"	40.0	ND	100	75-125	5	20	
Toluene	66.6	0.500	"	40.0	ND	166	75-125	36	20	
m,p-Xylene	77.5	1.00	"	80.0	ND	97	75-125	5	20	
o-Xylene	28.5	1.00	"	40.0	ND	71	75-125	4	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 26 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70206 - Volatiles**

**Blank (AK70206-BLK1)**

Prepared & Analyzed: 02-Nov-07

tert-Butyl Alcohol (TBA)	ND	5.00	ug/l							
Methyl tert-butyl Ether (MtBE)	ND	0.500	"							
Diisopropyl Ether (DIPE)	ND	0.500	"							
Ethyl tert-Butyl Ether (ETBE)	ND	0.500	"							
tert-Amyl Methyl Ether (TAME)	ND	0.500	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	1.00	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Toluene	ND	0.500	"							
m,p-Xylene	ND	1.00	"							
o-Xylene	ND	1.00	"							

**LCS (AK70206-BS1)**

Prepared & Analyzed: 02-Nov-07

Benzene	45.8	0.500	ug/l	40.0		114	75-122			
Ethylbenzene	32.4	0.500	"	40.0		81	75-122			
Toluene	40.7	0.500	"	40.0		102	75-122			
m,p-Xylene	61.8	1.00	"	80.0		77	75-122			
o-Xylene	23.2	1.00	"	40.0		58	75-122			

**Matrix Spike (AK70206-MS1)**

Source: 7101306-04

Prepared & Analyzed: 02-Nov-07

Benzene	26.1	0.500	ug/l	40.0	ND	65	75-125			
Ethylbenzene	13.4	0.500	"	40.0	ND	33	75-125			
Toluene	14.5	0.500	"	40.0	ND	36	75-125			
m,p-Xylene	23.8	1.00	"	80.0	ND	30	75-125			
o-Xylene	9.64	1.00	"	40.0	ND	24	75-125			

**Matrix Spike Dup (AK70206-MSD1)**

Source: 7101306-04

Prepared & Analyzed: 02-Nov-07

Benzene	45.0	0.500	ug/l	40.0	ND	112	75-125	53	20	
Ethylbenzene	39.2	0.500	"	40.0	ND	98	75-125	98	20	
Toluene	39.2	0.500	"	40.0	ND	98	75-125	92	20	
m,p-Xylene	74.5	1.00	"	80.0	ND	93	75-125	103	20	
o-Xylene	27.0	1.00	"	40.0	ND	67	75-125	95	20	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 27 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70209 - Volatiles**

**Blank (AK70209-BLK1)**

Prepared & Analyzed: 02-Nov-07

tert-Butyl Alcohol (TBA)	ND	50.0	ug/kg							
Methyl tert-butyl Ether (MtBE)	ND	5.00	"							
Diisopropyl Ether (DIPE)	ND	5.00	"							
Ethyl tert-Butyl Ether (ETBE)	ND	5.00	"							
tert-Amyl Methyl Ether (TAME)	ND	5.00	"							
1,2-Dibromoethane (EDB)	ND	5.00	"							
1,2-Dichloroethane	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Benzene	ND	5.00	"							
Toluene	ND	5.00	"							
m,p-Xylene	ND	5.00	"							
o-Xylene	ND	5.00	"							

**LCS (AK70209-BS1)**

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	54.5	5.00	ug/kg	40.0		136	75-122			
Ethylbenzene	32.4	5.00	"	40.0		81	75-125			
Benzene	45.8	5.00	"	40.0		114	75-125			
Toluene	40.7	5.00	"	40.0		102	75-125			
m,p-Xylene	61.8	5.00	"	80.0		77	75-125			
o-Xylene	23.2	5.00	"	40.0		58	75-125			

**Matrix Spike (AK70209-MS1)**

Source: 7101308-05

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	42.1	5.00	ug/kg	40.0	ND	105	0-200			
Ethylbenzene	13.4	5.00	"	40.0	ND	33	0-200			
Benzene	26.1	5.00	"	40.0	0.00	65	75-125			
Toluene	14.5	5.00	"	40.0	ND	36	75-125			
m,p-Xylene	23.8	5.00	"	80.0	ND	30	0-200			
o-Xylene	9.64	5.00	"	40.0	ND	24	0-200			

mg/L = milligrams per Liter = ppm  
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DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 28 of 33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AK70209 - Volatiles**

Matrix Spike Dup (AK70209-MSD1)

Source: 7101308-05

Prepared & Analyzed: 02-Nov-07

1,2-Dichloroethane	55.9	5.00	ug/kg	40.0	ND	140	0-200	28	200	
Ethylbenzene	39.2	5.00	"	40.0	ND	98	0-200	98	200	
Benzene	45.0	5.00	"	40.0	0.00	112	75-125	53	20	
Toluene	39.2	5.00	"	40.0	ND	98	75-125	92	20	
m,p-Xylene	74.5	5.00	"	80.0	ND	93	0-200	103	200	
o-Xylene	27.0	5.00	"	40.0	ND	67	0-200	95	200	

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

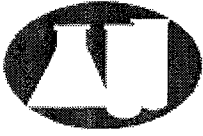
DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497





**PRECISION  
ENVIRO-TECH**  
Analytical Laboratory

**CERTIFICATE OF ANALYSIS**

Tuesday, November 27, 2007

Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 29 of 33

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ71310 - General Preparation**

**Blank (AJ71310-BLK1)**

Prepared & Analyzed: 13-Oct-07

Bromate	ND	0.100	mg/L							
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mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA, 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 30 of 33

**Total Petroleum Hydrocarbons-Gasoline - Quality Control**  
**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71304 - Volatiles</b>										
<b>Blank (AJ71304-BLK1)</b> Prepared & Analyzed: 13-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	61.0		"	50.0		122	75-125			
<b>LCS (AJ71304-BS1)</b> Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	1810	100	ug/l	2000		90	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ71304-MS1)</b> Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ71304-MSD1)</b> Source: 7101308-01 Prepared: 13-Oct-07 Analyzed: 14-Oct-07										
TPH-Gasoline	12000	100	ug/l	2000	9800	110	75-125	0.08	20	
Surrogate: 4-Bromofluorobenzene	55.0		"	50.0		110	75-125			
<b>Batch AJ71906 - Volatiles</b>										
<b>Blank (AJ71906-BLK1)</b> Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	62.4		"	50.0		125	70-125			
<b>LCS (AJ71906-BS1)</b> Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	2120	100	ug/l	2000		106	70-125			
Surrogate: 4-Bromofluorobenzene	49.0		"	50.0		98	70-125			
<b>Matrix Spike (AJ71906-MS1)</b> Source: 7101308-02 Prepared & Analyzed: 19-Oct-07										
TPH-Gasoline	7310	100	ug/l	2000	5830	74	70-125			
Surrogate: 4-Bromofluorobenzene	61.1		"	50.0		122	70-125			

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
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RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



Attention: James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 31 of 33

**Total Petroleum Hydrocarbons-Gasoline - Quality Control**  
**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch AJ71906 - Volatiles</b>										
<b>Matrix Spike Dup (AJ71906-MSD1)</b>		<b>Source: 7101308-02</b>			<b>Prepared &amp; Analyzed: 19-Oct-07</b>					
TPH-Gasoline	7320	100	ug/l	2000	5830	75	70-125	0.1	20	
Surrogate: 4-Bromofluorobenzene	57.2		"	50.0		114	70-125			
<b>Batch AJ72602 - Volatiles</b>										
<b>Blank (AJ72602-BLK1)</b>		<b>Prepared &amp; Analyzed: 26-Oct-07</b>								
TPH-Gasoline	ND	100	ug/l							
Surrogate: 4-Bromofluorobenzene	47.0		"	50.0		94	75-125			
<b>LCS (AJ72602-BS1)</b>		<b>Prepared &amp; Analyzed: 26-Oct-07</b>								
TPH-Gasoline	1950	100	ug/l	2000		98	75-125			
Surrogate: 4-Bromofluorobenzene	46.0		"	50.0		92	75-125			
<b>Matrix Spike (AJ72602-MS1)</b>		<b>Source: 7102508-01</b>			<b>Prepared: 26-Oct-07 Analyzed: 27-Oct-07</b>					
TPH-Gasoline	1860	100	ug/l	2000	0.00	93	75-125			
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0		102	75-125			
<b>Matrix Spike Dup (AJ72602-MSD1)</b>		<b>Source: 7102508-01</b>			<b>Prepared: 26-Oct-07 Analyzed: 27-Oct-07</b>					
TPH-Gasoline	1820	100	ug/l	2000	0.00	91	75-125	2	20	
Surrogate: 4-Bromofluorobenzene	52.0		"	50.0		104	75-125			

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497



**Attention:** James Jacobs  
EBS / Environmental BioSystems  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 32 of 33

**Total Petroleum Hydrocarbons-Diesel Range - Quality Control**

**Precision Enviro-Tech**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch AJ72603 - Solvent Extraction**

**Blank (AJ72603-BLK1)**

Prepared: 26-Oct-07 Analyzed: 27-Nov-07

TPH-Diesel	ND	100	ug/l							
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mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

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**Attention:** James Jacobs  
**EBS / Environmental BioSystems**  
707 View Pt Rd  
Mill Valley, CA 94941

Report Page 33 of 33

**Notes and Definitions**

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

mg/L = milligrams per Liter = ppm  
ug/L = micrograms per Liter = ppb

DLR = Detection Limit for Purpose of Reporting.  
Exceptional sample matrices or interferences may  
result in higher detection limits.

RESPECTFULLY SUBMITTED,

Jonathan Le, Laboratory Director

3935 N. Coronado Ave Stockton CA. 95204 phone: (209) 477-8105 Fax: (209) 546-7497

# CHAIN OF CUSTODY FORMS

# PRECISION ENVIRO-TECH

## CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

1

**CLIENT DETAILS**

Client: Environmental BioSystems

Customer Number: CG ZC046D

Address: 707 Viewport Rd  
Mill Valley CA 94941

Phone: 415-381-5195

FAX: 415-381-5816

Project name: Clearwater/Eagle Gas

Contact person: Jim Jacobs

**SAMPLING**

Sampler(s): Jim Jacobs  
Jacques Guerin

Comp Sampler Set Up Date: \_\_\_\_\_ Time: \_\_\_\_\_

Time: \_\_\_\_\_ Mileage: \_\_\_\_\_

**REPORT INFORMATION**

Rush Analysis: 5 Days  2 Days \_\_\_\_\_ 24hrs \_\_\_\_\_

Subject to surcharge

QA/QC report required: yes  no \_\_\_\_\_

If yes, To: State \_\_\_\_\_ Client  Other \_\_\_\_\_

Lab number: 7101214-01, 02

**SAMPLE INFORMATION**

Sample Number	Location Description	Date Sample	Time Sample
EG60	Control Sample T=0	10/12/07	6:30 PM
EG60	Control Sample T=0	10/12/07	6:30 PM

Type of Sampling: (Composite or Grab)	Number of Containers: (1) Glass (2) Plastic (3) Metal Tubes	(2) Potable (NP) Non Potable	(SW) Surface Water (GW) Ground Water (WW) Waste Water	(S) Soil (S1) Sludge (S2) Sediment (S3) Other	Preservative: (1) NaOH + ZnAc. (2) NaOCl (3) HCl (4) H2SO4 (5) H3PO4 (6) Nitric Acid (7) Other	MTBE, TGA, S oxygenates	TPH, THP, BTEX	ANALYSES REQUESTED	SOD persulfate	ROD, COD	Mercury Content	General Minerals	As, Cd, Pb, Hg, Se	Ba, Mn	Cr(VI)	Sample Condition: (A) Broken (B) Leaking (C) Temperature VOA Headspace	Custom Seal (Y) (N)

**REMARKS**

No spike used

**CUSTODY**

Relinquished by: Jacques Guerin Date: 10/12/07 Time: 6:30 PM

Received by: Paula Date: 10/12/07 Time: 6:30 PM

# PRECISION ENVIRO-TECH

# CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

②

**CLIENT DETAILS**

Client: Environmental Bio Systems

Customer Number: CG-ZP046D

Address: 707 ViewPoint Rd  
Mill Valley CA 94941

Phone: 415-381-5195

FAX: 415-381-5816

Project name: Clearwater/ Eagle Gas  
Oakland

Contact person: Jim Jacobs

**SAMPLING**

Sampler (s): Jim Jacobs  
Jacques Guenther

Comp Sampler Set Up Date: \_\_\_\_\_ Time: \_\_\_\_\_

Time: \_\_\_\_\_ Mileage: \_\_\_\_\_

**REPORT INFORMATION**

Rush Analysis: 5 Days \_\_\_\_\_ 2 Days \_\_\_\_\_ 24hrs \_\_\_\_\_

Subject to surcharge \_\_\_\_\_

QA/QC report required: yes \_\_\_\_\_ no \_\_\_\_\_

If yes, To: State \_\_\_\_\_ Client \_\_\_\_\_ Other \_\_\_\_\_

Lab number: 7101306-01

**SAMPLE INFORMATION**

Sample Number	Location Description	Date Sample	Time Sample
EGC1-1	Case 1/T=1 Day	10/13/07	W 6:30pm
EGC1-7	↓ 7 day	10/19/07	W
EGC1-14	↓ 14 day	10/26/07	W
EGC1-21-W	↓ 21 day	11/2/07	W
EGC1-21-S	↓ 21 day	11/2/07	Soil

Type of Sampling: Composite (C) Grab (G)	Number of Containers: (G) Glass (P) Plastic (V) VOA (M) Metal Tube	(P) Presable (N) Not Presable	(SW) Surface Water (GW) Ground Water (WW) Waste Water	(S) Soil (SL) Sludge (RL) Solid (O) Oil	Preservative: (1) NaOH - Zink (2) NaOH (3) HCl (4) H2SO4 (5) HNO3 (6) Na2S2O3 (7) Other	ANALYSES REQUESTED	Sample Condition: Temperature (L) Leaking (B) Broken (MS)	Custody Seal (Y) (N)
						TPH, TNG, BTEX MTBE, TGA, Sox, Hex, Hept, Oct, P, M, Cl, Hg, Se Cd, Cu, Pb, Zn, Ni, Cr, Mn, Fe, Br, Bromide		
						X X		
						X X		
						X X		
						X X X X X		
						X X X X X		

**REMARKS**

W = Water (liquid)  
bracketed ch/br.de  
for liquids only

**CUSTODY**

Relinquished by: Jim Jacobs Date: 10/12/07 Time: 6:30pm Received by: [Signature] Date: 10/12/07 Time: 6:30pm

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_





