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SEP 17 2004
5:07 PM PST

Mr. Amir Gholami
Alameda County Environmental Health Services
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

September 14, 2004

RE: *Groundwater Monitoring Report, Third Quarter 2004*
Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP StID# 2118
Clearwater Group Project # ZP046B
USTCF Claim No. 014551

Dear Mr. Gholami,

Please find enclosed a copy of the Groundwater Monitoring Report, Third Quarter 2004 for the above referenced project location. If there are any questions regarding the information as it is presented in the plan, please do not hesitate to contact our office at 510-307-9943 ext 231.

Sincerely,
Clearwater Group

A handwritten signature in black ink, appearing to read "David Mog".

David Mog P.E.
Principal Engineer

Enclosure


CLEARWATER
G R O U P
Environmental Services

Mr. Amir Gholami
Hazardous Materials Specialist
Alameda County Environmental Health Services
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

September 14, 2004

Re: *Groundwater Monitoring Report, Third Quarter 2004*
Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP Site ID# 2118
Clearwater Project No. ZP046B
USTCF Claim No. 014551

RECEIVED
SEP 14 2004
CLEARWATER GROUP

Dear Mr. Gholami:

The Clearwater Group (Clearwater) has prepared the following letter report of third quarter 2004 groundwater monitoring activities at the above referenced site. Groundwater monitoring was requested by the Alameda County Department of Environmental Health (ACDEH) in a letter dated October 18, 2001.

Site Description

The site is located in the southern portion of Oakland, Alameda County, California at the south corner of San Leandro Street and High Street, approximately 1,000 feet east of Interstate Highway 880. The site is bounded by commercial property to the southeast, southwest and northwest and by the Bay Area Rapid Transit (BART) tracks to the northeast (**Figure 1**.) The site is underlain predominantly by clays with some clayey gravel and clayey sand at depths to approximately 10 feet below ground surface (bgs), and silty sand below 20 feet in some areas.

Background

On April 21 and 22, 1999, Clearwater, (formerly Artesian Environmental), oversaw the removal from the site of five underground storage tanks (UST) consisting of two 6,000-gallon gasoline USTs, two 4,000-gallon diesel USTs and one 300-gallon used oil UST (Figure 2.) Field observations included detection of strong petroleum odors from soils near the former UST locations. A total of five-confirmation soil samples and three groundwater samples were collected from the UST excavations. Laboratory analysis confirmed an unauthorized release of petroleum had occurred.

In a letter dated May 10, 1999, the ACDEH recommended that soil be remediated by over-excavation and that "as much groundwater as possible" be pumped from the excavation. Approximately 800 tons of petroleum-impacted soil was excavated and disposed of as Class II non-hazardous waste. Less than 1,000 gallons of petroleum-impacted groundwater was pumped and removed from the excavation. Groundwater did not recharge after the initial pumping. Existing on- and off-site structures limited the amount of soil that could be safely excavated. Soil samples collected from the excavation walls and product piping trenches indicated some remaining petroleum and methyl tertiary butyl ether (MTBE) contamination.

On August 4 and 5, 1999, approximately 100 linear feet of product piping was removed. Vent piping from between the former USTs and the south corner of the on-site building was also removed. All piping was cut up and disposed of as scrap metal. On August 5, 1999, confirmation soil samples were collected along the piping trench. Six samples were collected from approximately three feet bgs. An additional four samples were collected, one for each of the four former fuel dispensers. Laboratory analytical results indicated the presence of hydrocarbon related contamination along the piping trenches.

On September 26, 2000 West Hazmat of Rancho Cordova, California, used a CME 75 drill rig to advance three borings to approximately 25 feet bgs (Figure 2), and collect soil samples. Each of the three borings was converted to a groundwater monitoring well using clean, flush-threaded, 2-inch diameter polyvinyl chloride (PVC) well materials (Table 1.) Soil sample analytical results are included as Table 2. On October 3 and 10, 2000, Clearwater surveyed the top of the casing elevations for each of the wells relative to an arbitrary datum, and developed the wells for monitoring. Initial groundwater samples collected from these wells contained 83,000 micrograms per liter ($\mu\text{g/L}$) to 250,000 $\mu\text{g/L}$ total petroleum hydrocarbons as gasoline, (TPHg), and 33,000 $\mu\text{g/L}$ to 400,000 $\mu\text{g/L}$ MTBE (Table 3.)

On August 3, 2001 Clearwater submitted its *Groundwater Monitoring Report, Second Quarter 2001, Sensitive Receptor Survey and Workplan for Continuing Investigation*. It was determined at that time that there are no major ecological receptors, permanent surface waters or domestic-use wells within a 2,000-foot radius of the site. The proposed scope of the workplan included the installation of eight groundwater-monitoring wells around the site to delineate the water-borne MTBE plume. In response to Clearwater's workplan, the ACDEH, in correspondence dated October 18, 2001, recommended that off-site monitoring wells not be installed for the time being. Instead, the ACDEH requested that further characterization of subsurface soils and groundwater on-site be completed prior to the installation of any off-site wells.

Quarterly monitoring did not occur for a variety of reasons after the third quarter 2003 event. Quarterly monitoring resumed in July 2003 and has taken place every quarter since.



Groundwater Monitoring Activities

Groundwater Gauging and Sampling

On August 6, 2004 all three wells were monitored. An electronic water level indicator accurate to within ± 0.01 feet was used to gauge depth to water. All wells were checked for the presence of Separate Phase Hydrocarbons (SPH) prior to purging. SPH were not found in any well. The wells were purged of groundwater until measurements of temperature, pH and conductivity stabilized, which occurred by approximately three wetted casing volumes. Depth to water and well purging information was recorded on Gauging Data/Purge Calculations and Purging Data sheets (**Attachment 1.**) All work was performed in accordance with Clearwater's Groundwater Monitoring and Sampling Field Procedures (**Attachment 2.**)

Purging devices were decontaminated between wells in an Alconox® wash followed by double rinsing in clean tap water to prevent cross-contamination. Purge water and rinseate were contained in labeled 55-gallons drums and removed from the site for future disposal.

Following recovery of water levels to at least 80% of their static levels, groundwater samples were collected from the monitoring wells using disposable polyethylene bailers. Samples were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Laboratory Analysis

Groundwater samples were analyzed by Kiff Analytical LLC, a California Department of Health Services certified laboratory, located in Davis, California. Analyses were conducted by EPA Method 8260B for TPHg, for benzene, toluene, ethylbenzene, and xylenes (BTEX), and for the oxygenates MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA). Analyses for total petroleum hydrocarbons as diesel (TPHd) were conducted by

EPA Method 8015M. Complete laboratory analytical reports including chain-of-custody forms are included in **Attachment 3**.

Groundwater Monitoring Results

Groundwater Elevation and Flow

Depths to water ranged from approximately 7.76 (MW-1) to 15.36 (MW-2) feet bgs (Table 3.) Depth to water data combined with arbitrary well elevation data were used to generate a groundwater elevation map (**Figure 3**.) During this monitoring event, groundwater flow was in a generally southerly direction with a gradient of 0.075 ft/ft. Groundwater gradient is generally consistent with observations from the previous groundwater-monitoring event. Groundwater flow for the last monitoring event was in a southeasterly direction, approximately 45 degrees to the south of this monitoring events flow direction.

Groundwater Sample Analytical Results

Diesel-range hydrocarbons were detected in samples collected from all three groundwater-monitoring wells. Concentrations of TPHd ranged from 78 µg/L (MW-3) to 510 µg/L (MW-1). MTBE was detected in samples collected from all three monitoring wells in concentrations ranging from 26,000 µg/L (MW-1) to 810,000 µg/L (MW-2). Detections of TAME were reported this quarter in all three wells with concentrations ranging from 3,600 µg/L (MW-2) to 100 µg/L (MW-1). Samples collected from MW-1, and MW-2 contained reportable concentrations of TBA at a concentration of 250,000 µg/L, and 17,000J µg/L respectively. The sample from MW-3 did not have reportable concentrations at <2,500 µg/L. Tert-Butanol results for sample MW-2 may be biased slightly high and are flagged with a "J". A fraction of MTBE (typically less than 1%) converts to Tert-Butanol during the analysis of water samples. We consider this conversion effect to be mathematically significant in samples that contain MTBE/Tert-Butanol in ratios of over 20:1. Samples collected from MW-2 contained reportable



concentrations of benzene (590 $\mu\text{g/L}$). Laboratory analytical results are summarized in **Table 3** and shown on **Figure 4**.

Conclusions and Recommendations

The results of the recent groundwater-monitoring event confirm the presence of elevated concentrations of petroleum related hydrocarbons in the groundwater beneath the site. Concentrations of TPHd decreased in all three wells this monitoring period from the previous event. Concentrations of MTBE in MW-1 and MW-3 decreased this reporting event, while concentrations of MTBE in MW-2 increased this event. Concentration of TBA in MW-1 doubled last monitoring event from the previous event and increased by over fifty percent this monitoring event. Previous investigations have indicated that some contaminated soil may remain underneath existing structures. To date, the extent of the dissolved-phase contaminant plume remains undefined. Clearwater recommends that further subsurface investigations be conducted both on- and off-site in order to characterize and delineate the extent of the water-borne contaminant plume. Monitoring of the existing wells should continue throughout the investigative process.

On January 9, 2004, after completing its review of the Third Quarter 2003 Groundwater Monitoring Report, ACDEH requested a workplan be prepared for the purpose of addressing the hydrocarbon contamination found in the groundwater beneath the project location. Clearwater submitted an Interim Remedial action Plan (IRAP) on January 14, 2004. Clearwater is waiting on the review and approval to perform this work. Clearwater is aware that not all the vertical and lateral extent of contamination, on-site and off-site has been performed. Nonetheless, discussions between Clearwater and our client indicated that our client wishes that an interim-remedial action be considered at the site. As such, an interim remedial measure was described in the submitted materials.



Attachments

Figures

- Figure 1: Site Location Map
- Figure 2: Site Plan
- Figure 3: Groundwater Elevation Map - 4/17/04
- Figure 4: Dissolved Hydrocarbon Map - 4/17/04

Tables

- Table 1: Well Construction Data
- Table 2: Soil Sample Analytical Data
- Table 3: Groundwater Elevation and Analytic Data

Attachments

- Attachment 1: Well Gauging Data/Purge Calculations, Purging Data
- Attachment 2: Groundwater Monitoring and Sampling Field Procedures
- Attachment 3: Laboratory Analytical Reports and Chain-of-Custody Form

Cc: Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612



Certification

This report was prepared under the supervision of a professional registered geologist at Clearwater. All statements, conclusions and recommendations are based solely upon field observations and analyses performed by a California State-certified laboratory related to the work performed by Clearwater. Clearwater is not responsible for laboratory errors. Information and interpretations presented herein are for sole use of the client and regulating agency and shall not be relied upon by any third party. The service performed by Clearwater has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

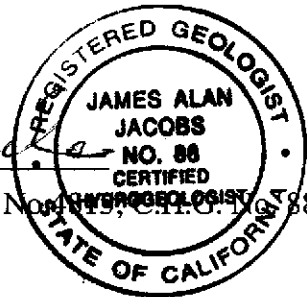
CLEARWATER GROUP

Prepared by:

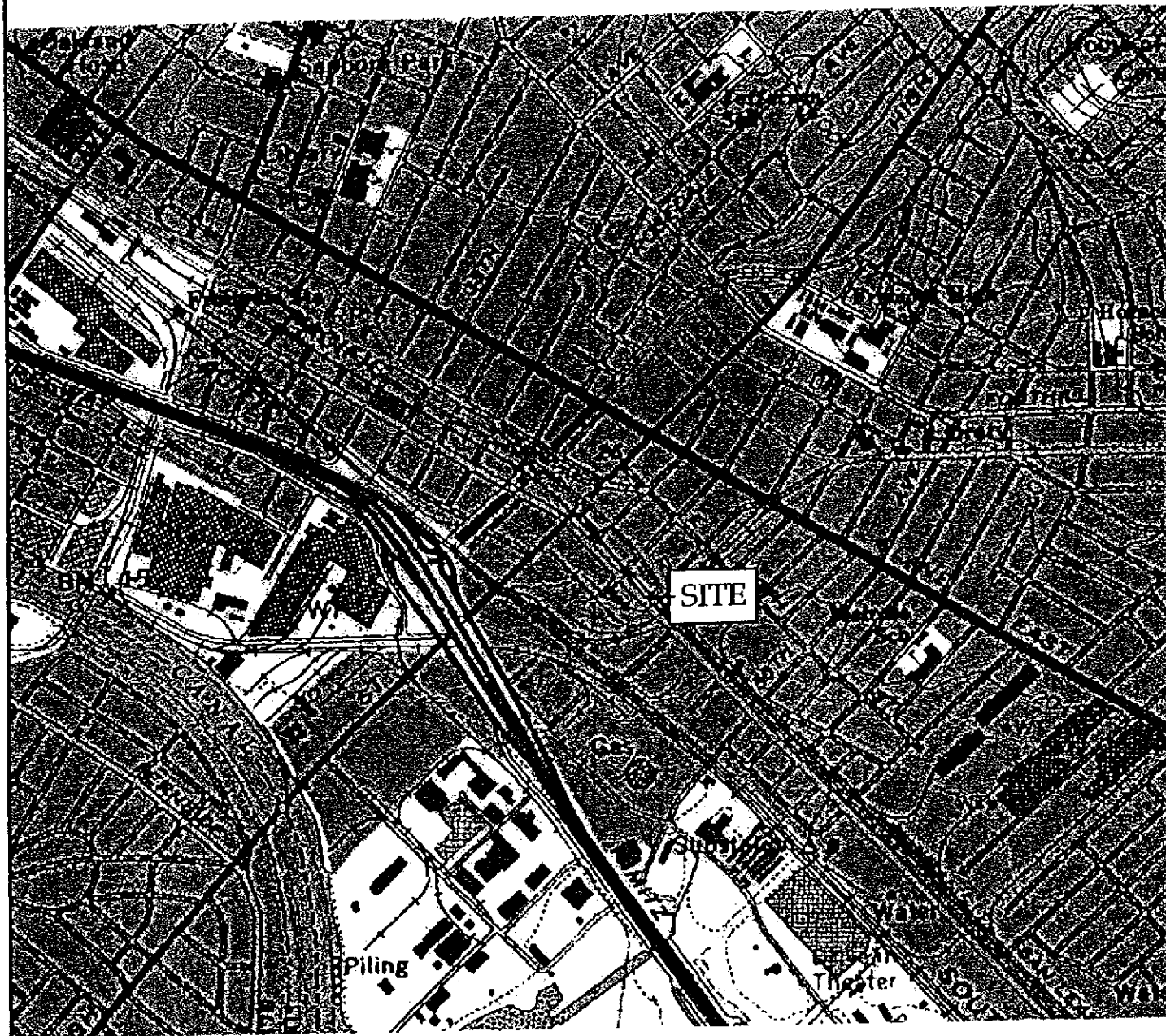
Reviewed by:

David Mog P.E. No. 39782
Principal Engineer

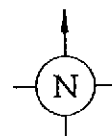
James A. Jacobs, R.G. No. 88
Chief Hydrogeologist



Figures



NOT TO SCALE



SITE LOCATION MAP
Eagle Gas
4301 San Leandro Street
Oakland, California

CLEARWATER GROUP

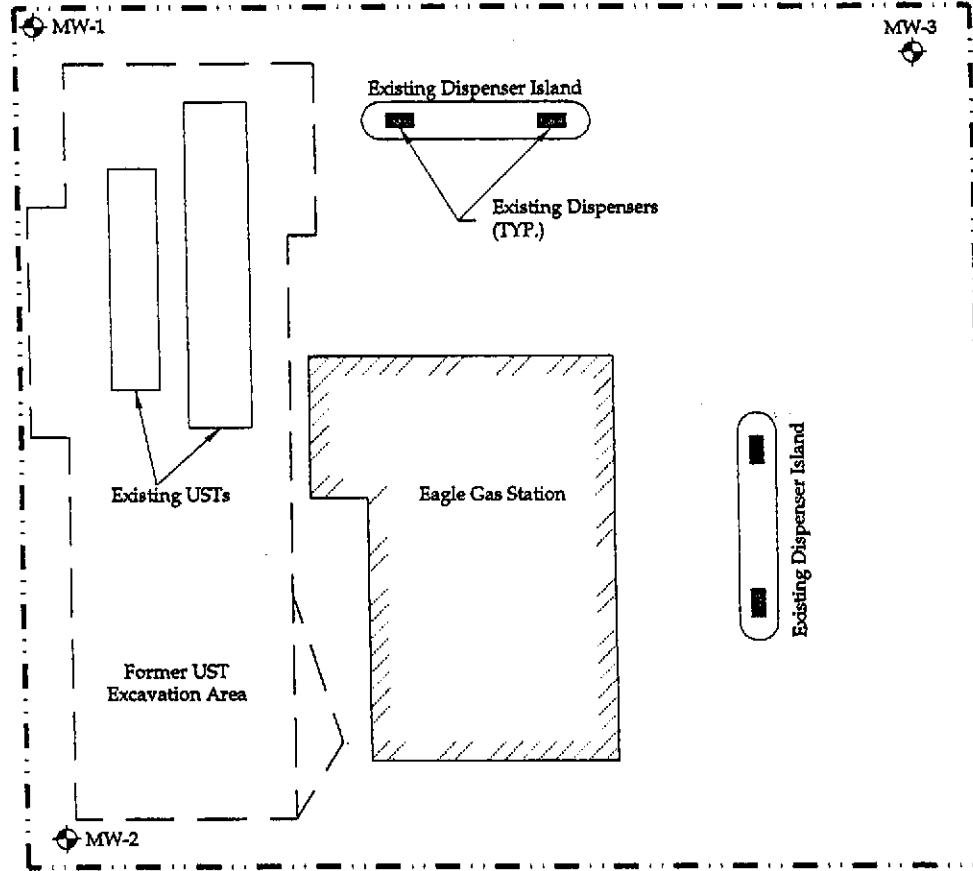
Project No.
ZP046B

Figure Date
1/04

Figure
1

HIGH STREET

Public Sidewalk



Adjacent Commercial Structure

Existing USTs

Former UST Excavation Area

Eagle Gas Station

Existing Dispenser Island

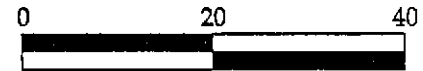
Existing Dispensers (TYP.)

Existing Dispenser Island

Public Sidewalk

SAN LEANDRO STREET

Adjacent Commercial Structure



APPROXIMATE SCALE IN FEET



LEGEND

- - - - - PROPERTY LINE
- ◊ MW-1 MONITORING WELL

SITE MAP
 Eagle Gas
 4301 San Leandro Street
 Oakland, California

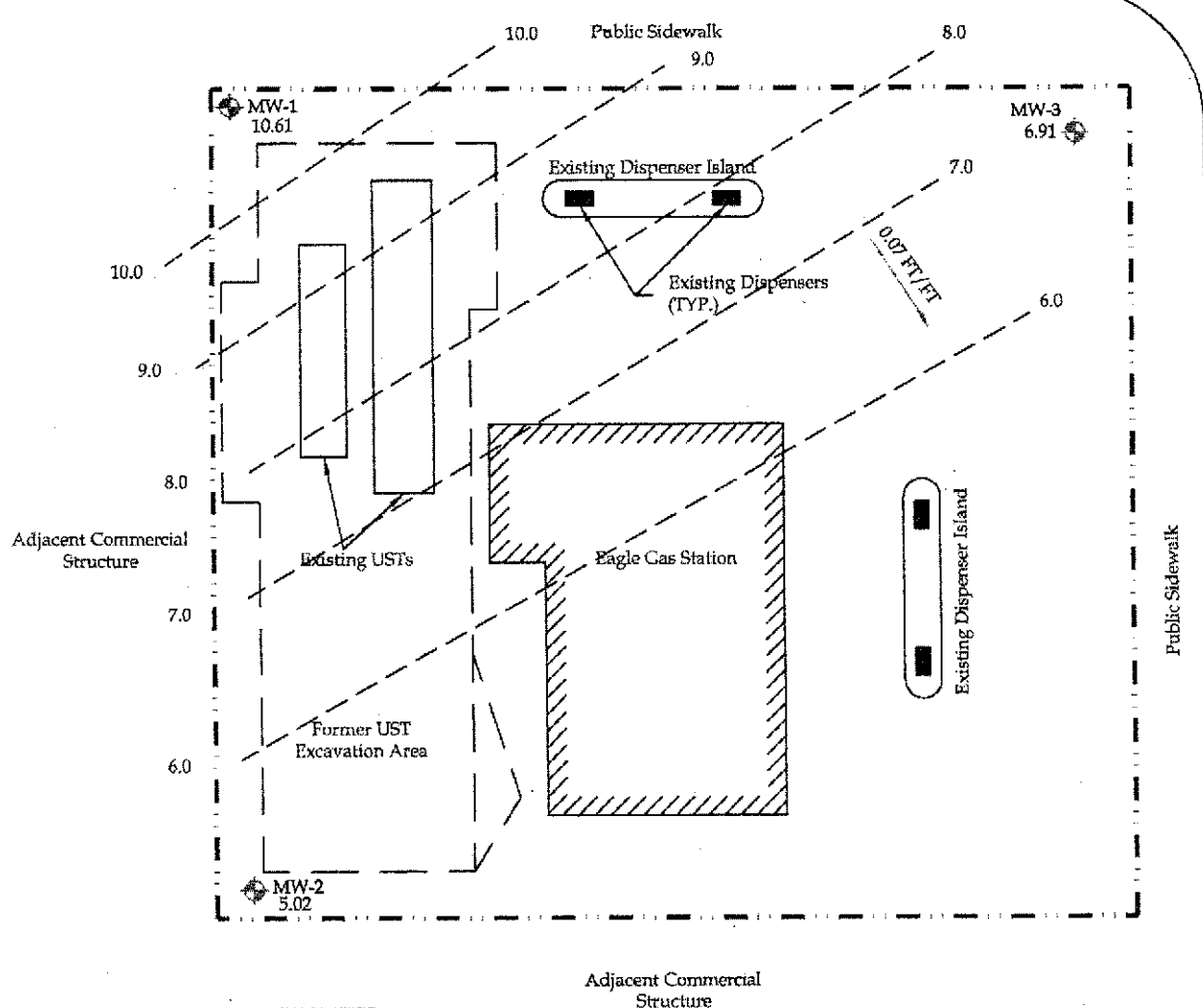
CLEARWATER GROUP

Project No.
ZP046B

Figure Date
4/01

Figure
2

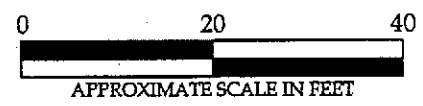
HIGH STREET



SAN LEANDRO STREET

LEGEND

- 0.037 ft/ft APPROX. GROUNDWATER FLOW DIRECTION & GRADIENT
- 6.5 GROUNDWATER ELEVATION CONTOUR (HEIGHT IN FEET ABOVE MSL)
- - - - - PROPERTY LINE
- MW-1 MONITORING WELL



GROUNDWATER ELEVATION MAP -
August 6, 2004
 Eagle Gas
 4301 San Leandro Street
 Oakland, California

CLEARWATER GROUP

| | | |
|-----------------------|---------------------|-------------|
| Project No. ZP046B | Figure Date 8/04 | Figure 3 |
|-----------------------|---------------------|-------------|

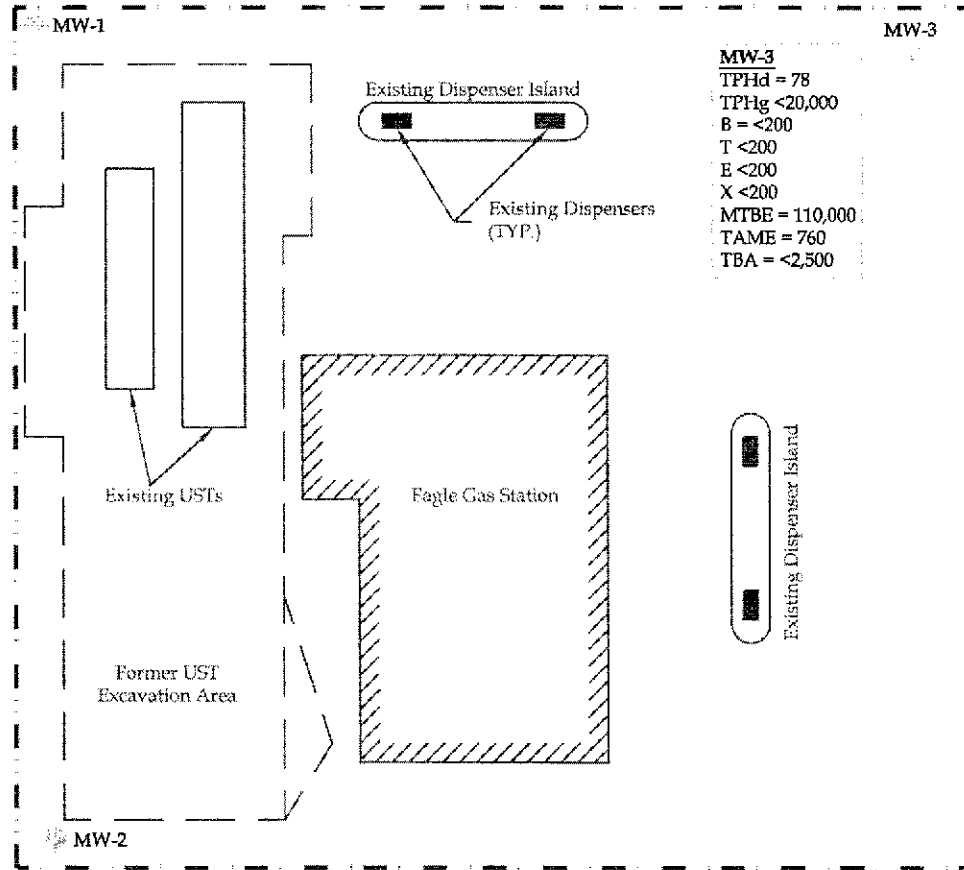
HIGH STREET

Public Sidewalk

MW-1
 TPHd = 510
 TPHg <10,000
 B < 100
 T <100
 E <100
 X <100
 MTBE = 26,000
 TAME = 100
 TBA = 250,000

Adjacent Commercial Structure

MW-2
 TPHd = 420
 TPHg <50,000
 B = 590
 T <500
 E = <500
 X <500
 MTBE = 810,000
 TAME = 3,600
 TBA < 17,000



MW-3
 TPHd = 78
 TPHg <20,000
 B = <200
 T <200
 E <200
 X <200
 MTBE = 110,000
 TAME = 760
 TBA = <2,500

SAN LEANDRO STREET

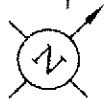
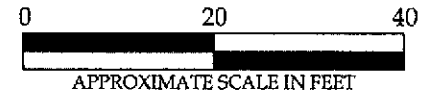
Public Sidewalk

LEGEND

MW-1
 TPHd = 1,800
 TPHg <10,000
 B < 100
 T <100
 E <100
 X <100
 MTBE = 85,000
 TAME = 390
 TBA = 79,000

CONCENTRATIONS OF: TOTAL PETROLEUM HYDROCARBONS AS DESEL (IPHd), HYDROCARBONS AS GASOLINE (TPHg), BENZENE (B), TOULENE (T), ETHYLBENZENE (E), TOTAL XYLENES (X), AND METHYL TERT-BUTYL ETHER (MTBE), TERT AMYL METHYL ETHER (TAME), TERTIARY BUTYL ALCOHOL (TBA). ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)

--- PROPERTY LINE
 MW-1 MONITORING WELL



DISSOLVED HYDROCARBON MAP

August 6, 2004
 Eagle Gas
 4301 San Leandro Street
 Oakland, California

CLEARWATER GROUP

Project No.
 ZP046B

Figure Date
 8/04

Figure
 4

Tables

Table 1
WELL CONSTRUCTION DATA
Eagle Gas
 4301 San Leandro Street
 Oakland, California
 Clearwater Group Project No. ZP046A

| Well I.D. | Date Intstalled | Borehole Diameter (inches) | Depth of Borehole (feet) | Casing Diameter (inches) | Screened Interval (feet) | Filter Pack (feet) | Bentonite Seal (feet) | Cement (feet) |
|-----------|-----------------|----------------------------|--------------------------|--------------------------|--------------------------|--------------------|-----------------------|---------------|
| MW-1 | 9/26/00 | 8 | 25 | 2 | 10-25 | 6-25 | 3-6 | 0-3 |
| MW-2 | 9/26/00 | 8 | 25 | 2 | 10-25 | 6-25 | 3-6 | 0-3 |
| MW-3 | 9/26/00 | 8 | 25 | 2 | 10-25 | 6-25 | 3-6 | 0-3 |

TABLE 2
 SOIL SAMPLE ANALYTICAL RESULTS
 Eagle Gas
 4301 San Leandro Street
 Oakland, California
 Clearwater Group Project No. ZP046B

| Sample ID | Sample Date | TPHd mg/Kg | TPHg mg/Kg | B mg/Kg | T mg/Kg | E mg/Kg | X mg/Kg | MTBE mg/Kg | EDB mg/Kg | 1,2-DCA mg/Kg | DIPE mg/Kg | ETBE mg/Kg | TAME mg/Kg | TBA mg/Kg |
|-------------|-------------|---------------|---------------|------------|------------|------------|------------|---------------|--------------|------------------|---------------|---------------|---------------|--------------|
| CS1-7 | 4/21/99 | 840 | 770 | 8.9 | 4.8 | 5.8 | 16 | 86 | --- | --- | --- | --- | --- | --- |
| CS2-7 | 4/21/99 | 1900 | 880 | 3.3 | 5.7 | 15 | 45 | 16 | --- | --- | --- | --- | --- | --- |
| CS3-7 | 4/22/99 | 780 | 1600 | 4.3 | 110 | 42 | 220 | 92 | --- | --- | --- | --- | --- | --- |
| CS5-6.5 | 4/22/99 | 33 | 20 | 0.22 | 1.8 | 0.54 | 3 | 52 | --- | --- | --- | --- | --- | --- |
| Stockpile 1 | 4/22/99 | 770 | 610 | 0.28 | 4.7 | 6.9 | 36 | ND | --- | --- | --- | --- | --- | --- |
| stockpile 2 | 4/22/99 | 670 | 480 | 0.23 | 2.3 | 3.9 | 18 | ND | --- | --- | --- | --- | --- | --- |
| CS4-13 | 4/22/00 | ND | ND | ND | ND | ND | ND | 0.08 | --- | --- | --- | --- | --- | --- |
| CS6-3 | 8/5/99 | 1300 | 4300 | 11 | 130 | 82 | 420 | 70 | --- | --- | --- | --- | --- | --- |
| CS7-3 | 8/5/99 | 200 | 50 | ND | 2.4 | 0.85 | 4 | 14 | --- | --- | --- | --- | --- | --- |
| CS8-3 | 8/5/99 | 3400 | 250 | 0.32 | 0.72 | 0.81 | 1 | 3.8 | --- | --- | --- | --- | --- | --- |
| CS9-3 | 8/5/99 | 1900 | 380 | ND | ND | ND | ND | 9.5 | --- | --- | --- | --- | --- | --- |
| CS10-3 | 8/5/99 | 350 | 930 | ND | 78 | 17 | 99 | 310 | --- | --- | --- | --- | --- | --- |
| CS11-3 | 8/5/99 | 5200 | 1400 | 3.2 | 13 | 25 | 90 | 62 | --- | --- | --- | --- | --- | --- |
| MW1-10'bgs | 9/26/00 | 87 | 310 | 0.062 | 0.022 | 1.3 | 3.4 | 6.9 | ND | ND | ND | ND | 0.019 | 2.9 |
| MW2-10'bgs | 9/26/00 | 210 | 630 | 0.053 | 0.052 | 2 | 14 | 1.00 | ND | ND | ND | ND | ND | 3.5 |
| MW3-10'bgs | 9/26/00 | ND | 32 | ND | ND | ND | ND | 4.5 | ND | ND | ND | ND | 0.043 | 0.58 |

TABLE 2
 SOIL SAMPLE ANALYTICAL RESULTS
 Eagle Gas
 4301 San Leandro Street
 Oakland, California
 Clearwater Group Project No. ZP046B

| Sample ID | Sample Date | TPHd mg/Kg | TPHg mg/Kg | B mg/Kg | T mg/Kg | E mg/Kg | X mg/Kg | MTBE mg/Kg | EDB mg/Kg | 1,2-DCA mg/Kg | DIPE mg/Kg | ETBE mg/Kg | TAME mg/Kg | TBA mg/Kg |
|-----------|-------------|------------|------------|---------|---------|---------|---------|------------|-----------|---------------|------------|------------|------------|-----------|
|-----------|-------------|------------|------------|---------|---------|---------|---------|------------|-----------|---------------|------------|------------|------------|-----------|

NOTES:

- TPHd Total petroleum hydrocarbons as diesel by EPA Method 8015 (modified)
- TPHg Total petroleum hydrocarbons as gasoline by EPA Method 8260B
- BTEX Benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260B
- MTBE Methyl tertiary butyl ether by EPA Method 8260B
- DIPE Di-isopropyl ether by EPA Method 8260B
- ETBE Ethyl tertiary butyl ether by EPA Method 8260B
- TAME Tertiary amyl methyl ether by EPA Method 8260B
- 1,2-DCA 1,2-Dichloroethane by EPA Method 8260B
- EDB Ethylene dibromide by EPA Method 8260B
- TBA Tertiary butyl alcohol by EPA Method 8260B
- mg/Kg miligrams per kilogram
- no samples collected, no data available
- ND Not detected in concentrations above laboratory reporting limit

TABLE 3
GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Eagle Gas
4301 San Leandro Street
Oakland, California
Clearwater Group Project No. ZP046B

| Sample ID | Sample Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHd (µg/L) | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) |
|-----------|-------------|------------|------------|------------|---------------|----------------|--------------|-----------|------------|--------------|------------------|-------------|-------------|--------------|----------------|
| MW-1 | 10/3/00 | 18.37 | 8.96 | 9.41 | 460 | 93,000 | <500 | <500 | <500 | <500 | 130,000 | <10,000 | <10,000 | <10,000 | <2,000 |
| | 10/27/00 | 18.37 | 7.27 | 11.1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 1/26/01 | 18.37 | 7.60 | 10.77 | 1,600* | 51,000 | 270 | <100 | <100 | <100 | 77,000 | <5,000 | <5,000 | <5,000 | <20,000 |
| | 5/8/01 | 18.37 | 7.50 | 10.87 | 470* | 36,000* | <100 | <100 | <100 | <100 | 15,000 | <5,000 | <5,000 | <5,000 | <20,000 |
| | 8/3/01 | 18.37 | 7.09 | 11.28 | 2,200* | 19,000* | <50 | 59 | <50 | <50 | 96,000 | <5,000 | <5,000 | <5,000 | <20,000 |
| | 7/1/03 | 18.37 | 7.59 | 10.78 | 3,000 | <25,000 | <250 | <250 | <250 | <250 | 170,000 | <250 | <250 | 980 | 8700 |
| | 10/1/03 | 18.37 | 8.36 | 10.01 | 2,600 | <20,000 | <200 | <200 | <200 | <200 | 69,000 | <200 | <200 | 270 | 15,000 |
| | 2/13/04 | 18.37 | 8.80 | 9.57 | 1,800 | <10,000 | <100 | <100 | <100 | <100 | 85,000 | <100 | <100 | 390 | 79,000 |
| | 5/17/04 | 18.37 | 10.92 | 7.45 | 5,400 | <15,000 | <150 | <150 | <150 | <150 | 60,000 | <150 | <150 | 260 | 160,000 |
| | 8/6/04 | 18.37 | 7.76 | 10.61 | 510 | <10,000 | <100 | <100 | <100 | <100 | 26,000 | <100 | <100 | 100 | 250,000 |
| MW-2 | 10/3/00 | 20.28 | 20.26 | 0.02 | 210 | 250,000 | <1,250 | <1,250 | <1,250 | <1,250 | 400,000 | <25,000 | <25,000 | <25,000 | <100,000 |
| | 10/27/00 | 20.28 | 13.88 | 6.40 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 1/26/01 | 20.28 | 12.10 | 8.18 | 6,000* | 740,000 | 3,800 | <500 | 940 | 1,600 | 1,000,000 | <50,000 | <50,000 | <50,000 | <200,000 |
| | 5/8/01 | 20.28 | 12.05 | 8.23 | 2,100* | 140,000 | 2,800 | <250 | 780 | 640 | 840,000 | <50,000 | <50,000 | <50,000 | <200,000 |
| | 8/3/01 | 20.28 | 13.30 | 6.98 | 2,600* | 42,000* | 1,100 | 63 | 230 | 130 | 880,000 | <25,000 | <25,000 | <25,000 | <100,000 |
| | 7/1/03 | 20.28 | 14.98 | 5.30 | 2,200 | <200,000 | <2,000 | <2,000 | <2,000 | <2,000 | 790,000 | <2,000 | <2,000 | 3,400 | <20,000 |
| | 10/1/03 | 20.28 | 15.99 | 4.29 | 870 | <100,000 | <1,000 | <1,000 | <1,000 | <1,000 | 620,000 | <1,000 | <1,000 | 2,700 | <20,000 |
| | 2/13/04 | 20.28 | 13.88 | 6.40 | 1200 | <20,000 | 860 | <200 | 260 | <200 | 710,000 | <200 | <200 | 2,000 | <25,000 |
| | 5/17/04 | 20.38 | 14.68 | 5.70 | 2,500 | <50000 | 860 | <500 | <500 | <500 | 760,000 | <500 | <500 | 2,500 | 13000J |
| | 8/6/04 | 20.38 | 15.36 | 5.02 | 420 | <50000 | 590 | <500 | <500 | <500 | 810,000 | <500 | <500 | 3,600 | 17,000J |

TABLE 3
GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Eagle Gas
4301 San Leandro Street
Oakland, California
Clearwater Group Project No. ZP046B

| Sample ID | Sample Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHd (µg/L) | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) |
|-----------|-------------|------------|------------|------------|---------------|----------------|------------|-----------|----------|----------|----------------|-------------|-------------|--------------|--------------|
| MW-3 | 10/3/00 | 18.98 | --- | --- | 120 | 8,300 | <500 | <500 | <500 | <500 | 33,000 | <2,500 | <2,500 | <2,500 | <10,000 |
| | 10/27/00 | 18.98 | 18.75 | 0.23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 1/26/01 | 18.98 | 13.38 | 5.60 | 900* | 230,000 | 930 | <500 | <500 | <500 | 330,000 | <25,000 | <25,000 | <25,000 | <100,000 |
| | 5/8/01 | 18.98 | 11.82 | 7.16 | 1,100* | 95,000 | 840 | <250 | <250 | <250 | 390,000 | <12,500 | <12,500 | <12,500 | <50,000 |
| | 8/3/01 | 18.98 | 13.44 | 5.54 | 290* | 30,000* | <50 | 51 | <50 | <50 | 270,000 | <12,500 | <12,500 | <12,500 | <50,000 |
| | 7/1/03 | 18.98 | 12.67 | 6.31 | 620 | <50,000 | <500 | <500 | <500 | <500 | 230,000 | <500 | <500 | 1,800 | <5,000 |
| | 10/1/03 | 18.98 | 14.04 | 4.94 | 370 | <20,000 | <200 | <200 | <200 | <200 | 120,000 | <200 | <200 | 1,200 | <5,000 |
| | 2/13/04 | 19.98 | 12.20 | 7.78 | 430 | <20,000 | 280 | <200 | <200 | <200 | 210,000 | <200 | <200 | 1,200 | <5000 |
| | 5/17/04 | 19.98 | 11.87 | 8.11 | 920 | <25,000 | <250 | <250 | <250 | <250 | 150,000 | <250 | <250 | 1,100 | 5600J |
| | 8/6/04 | 19.98 | 13.07 | 6.91 | 78 | <20,000 | <200 | <200 | <200 | <200 | 110,000 | <200 | <200 | 760 | <2,500 |

NOTES:

TOC Top of well casing referenced to arbitrary datum

DTW Depth to water

GWE Groundwater elevation

TPHd Total petroleum hydrocarbons as diesel by EPA Method 8015 (modified)

TPHg Total petroleum hydrocarbons as gasoline by EPA Method 8260B

BTEX Benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260B

MTBE Methyl tertiary butyl ether by EPA Method 8260B

DIPE Di-isopropyl ether by EPA Method 8260B

ETBE Ethyl tertiary butyl ether by EPA Method 8260B

TAME Tertiary amyl methyl ether by EPA Method 8260B

TBA Tertiary butyl alcohol by EPA Method 8260B

(µg/L) Micrograms per liter

<# Not detected in concentrations above laboratory reporting limit

--- no samples collected, no data available

* Laboratory note: "Results within quantitation range; chromatographic pattern not typical of fuel"

Attachments

PURGING DATA

SHEET 1 OF 1

4301 SAN LEANDRO ST

Job No: ZP046B

Location: OAKLAND, CA

Date: 8/6/04

Tech: Rodney Berry

1006

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH | |
|---|------|---------------|---------------|-----------------|------|---|
| MW-1 | 942 | 3.00 | 881 | 21.4° | 5.25 | Sample for: EPA METHOD 8015M TPHg <input checked="" type="checkbox"/> TPHd <input checked="" type="checkbox"/> 8010 BTEX <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> 50X45 EPA 8260B Purging Method: <input checked="" type="checkbox"/> PVC bailer <input checked="" type="checkbox"/> Pump Sampling Method: <input checked="" type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Disposable bailer |
| Calc. purge | 945 | 6.00 | 863 | 21.3° | 5.21 | |
| volume | 951 | 8.50 | 873 | 21.3° | 5.20 | |
| 8.04 | | | | | | |
| COMMENTS: color, turbidity, recharge, sheen | | | | | | |
| CLEAR, low, good, No sheen, odor | | | | | | |

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH | |
|---|------|---------------|---------------|-----------------|------|---|
| MW-3 | 1015 | 2.00 | 626 | 20.3° | 5.62 | Sample for: EPA METHOD 8015M TPHg <input checked="" type="checkbox"/> TPHd <input checked="" type="checkbox"/> 8010 BTEX <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> 50X45 EPA 8260B Purging Method: <input checked="" type="checkbox"/> PVC bailer <input checked="" type="checkbox"/> Pump Sampling Method: <input checked="" type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Disposable bailer |
| Calc. purge | 1017 | 3.00 | 626 | 20.4° | 5.65 | |
| volume | 1021 | 5.00 | 626 | 20.5° | 5.66 | |
| 4.52 | | | | | | |
| COMMENTS: color, turbidity, recharge, sheen | | | | | | |
| GRAYISH, low, good, No sheen | | | | | | |

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH | |
|---|------|---------------|---------------|-----------------|------|---|
| MW-2 | 1038 | 2.00 | 814 | 18.3° | 5.84 | Sample for: EPA METHOD 8015M TPHg <input checked="" type="checkbox"/> TPHd <input checked="" type="checkbox"/> 8010 BTEX <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> 50X45 EPA 8260B Purging Method: <input checked="" type="checkbox"/> PVC bailer <input checked="" type="checkbox"/> Pump Sampling Method: <input checked="" type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Disposable bailer |
| Calc. purge | 1041 | 3.00 | 811 | 18.3° | 5.84 | |
| volume | 1044 | 5.00 | 800 | 18.3° | 5.84 | |
| 4.80 | | | | | | |
| COMMENTS: color, turbidity, recharge, sheen | | | | | | |
| CLEAR, low, good, No sheen, odor | | | | | | |

CLEARWATER GROUP

Groundwater Monitoring and Sampling Field Procedures

Groundwater Monitoring

Prior to beginning, a decontamination area is established. Decontamination procedures consist of scrubbing downhole equipment in an Alconox® solution wash (wash solution is pumped through any purging pumps used), and rinsing in a first rinse of potable water and a second rinse of potable water or deionized water if the latter is required. Any non-dedicated downhole equipment is decontaminated prior to use.

Prior to purging and sampling a well, the static water level is measured to the nearest 0.01 feet with an electronic water sounder. Depth to bottom is typically measured once per year, at the request of the project manager, and during Clearwater's first visit to a site. If historical analytical data are not available, with which to establish a reliable order of increasing well contamination, the water sounder and tape will be decontaminated between each well. If floating separate-phase hydrocarbons (SPH) are suspected or observed, SPH is collected using a clear, open-ended product bailer, and the thickness is measured to the nearest 0.01 feet in the bailer. SPH may alternatively be measured with an electronic interface probe. Any monitoring well containing a measurable thickness of SPH before or during purging is not additionally purged and no sample is collected from that well. Wells containing hydrocarbon sheen are sampled unless otherwise specified by the project manager. Field observations such as well integrity as well as water level measurements and floating product thicknesses are noted on the Gauging Data/Purge Calculations form.

Well Purging

Each monitoring well to be sampled is purged using either a PVC bailer or a submersible pump. Physical parameters (pH, temperature and conductivity) of the purge water are monitored during purging activities to assess if the water sample collected is representative of the aquifer. If required, parameters such as dissolved oxygen, turbidity, salinity etc. are also measured. Samples are considered representative if parameter stability is achieved. Stability is defined as a change of less than 0.25 pH units, less than 10% change in conductivity in micro mhos, and less than 1.0 degree centigrade (1.8 degrees Fahrenheit) change in temperature. Parameters are measured in a discreet sample decanted from the bailer separately from the rest of the purge water. Parameters are measured at least four times during purging; initially, and at volume intervals of one well volume. Purging continues until three well casing volumes have been removed or until the well completely dewateres. Wells which dewater or demonstrate a slow recharge may be sampled after fewer than three well volumes have been removed. Well purging information is recorded on the Purge Data sheet. All meters used to measure parameters are calibrated daily. Purge water is sealed, labeled, and stored on site in D.O.T.-approved 55-gallon drums. After being chemically profiled, the water is removed to an appropriate disposal facility by a licensed waste hauler.

Groundwater Sample Collection

Groundwater samples are collected immediately after purging or, if purging rate exceeds well recharge rate, when the well has recharged to at least 80% of its static water level. If recharge is extremely slow, the well is allowed to recharge for at least two hours, if practicable, or until sufficient volume has accumulated for sampling. The well is sampled within 24 hours of purging or repurged. Samples are collected using polyethylene bailers, either disposable or dedicated to the well. Samples being analyzed for compounds most sensitive to volatilization are collected first. Water samples are placed in appropriate laboratory-supplied containers, labeled, documented on a chain of custody form and placed on ice in a cooler for transport to a state-certified analytical laboratory. Analytical detection limits match or surpass standards required by relevant local or regional guidelines.

Quality Assurance Procedures

To prevent contamination of the samples, Clearwater personnel adhere to the following procedures in the field:

- A new, clean pair of latex gloves is put on prior to sampling each well.
- Wells are gauged, purged and groundwater samples are collected in the expected order of increasing degree of contamination based on historical analytical results.

- All purging equipment will be thoroughly decontaminated between each well, using the procedures previously described at the beginning of this section.
- During sample collection for volatile organic analysis, the amount of air passing through the sample is minimized. This helps prevent the air from stripping the volatiles from the water. Sample bottles are filled by slowly running the sample down the side of the bottle until there is a convex meniscus over the mouth of the bottle. The lid is carefully screwed onto the bottle such that no air bubbles are present within the bottle. If a bubble is present, the cap is removed and additional water is added to the sample container. After resealing the sample container, if bubbles still are present inside, the sample container is discarded and the procedure is repeated with a new container.

Laboratory and field handling procedures may be monitored, if required by the client or regulators, by including quality control (QC) samples for analysis with the groundwater samples. Examples of different types of QC samples are as follows:

- Trip blanks are prepared at the analytical laboratory by laboratory personnel to check field handling procedures. Trip blanks are transported to the project site in the same manner as the laboratory-supplied sample containers to be filled. They are not opened, and are returned to the laboratory with the samples collected. Trip blanks are analyzed for purgeable organic compounds.
- Equipment blanks are prepared in the field to determine if decontamination of field sampling equipment has been effective. The sampling equipment used to collect the groundwater samples is rinsed with distilled water which is then decanted into laboratory-supplied containers. The equipment blanks are transported to the laboratory, and are analyzed for the same chemical constituents as the samples collected at the site.
- Duplicates are collected at the same time that the standard groundwater samples are being collected and are analyzed for the same compounds in order to check the reproducibility of laboratory data. They are typically only collected from one well per sampling event. The duplicate is assigned an identification number that will not associate it with the source well.

Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by Clearwater depending on site conditions and regulatory requirements.



Report Number : 39542

Date : 08/15/2004

Dave Mog
Clearwater Group, Inc.
229 Tewksbury Avenue
Point Richmond, CA 94801

Subject : 3 Water Samples
Project Name : NAZ EAGLE GAS
Project Number : ZP046

Dear Mr. Mog,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,



Joel Kiff



Report Number : 39542

Date : 08/15/2004

Subject : 3 Water Samples
Project Name : NAZ EAGLE GAS
Project Number : ZP046

Case Narrative

Tert-Butanol results for sample MW-2 may be biased slightly high and are flagged with a 'J'. A fraction of MtBE (typically less than 1%) converts to Tert-Butanol during the analysis of water samples. We consider this conversion effect to be mathematically significant in samples that contain MtBE/Tert-Butanol in ratios of over 20:1.

Approved By:

A handwritten signature in black ink, appearing to read "Joel Kiff".

Joel Kiff



Report Number : 39542

Date : 08/15/2004

Project Name : NAZ EAGLE GAS

Project Number : ZP046

Sample : MW-1

Matrix : Water

Lab Number : 39542-01

Sample Date :08/06/2004

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|-------------------------------|----------------|------------------------|------------|-----------------|---------------|
| Benzene | < 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Ethylbenzene | < 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Total Xylenes | < 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Methyl-t-butyl ether (MTBE) | 26000 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-amyl methyl ether (TAME) | 100 | 100 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-Butanol | 250000 | 1000 | ug/L | EPA 8260B | 08/12/2004 |
| TPH as Gasoline | < 10000 | 10000 | ug/L | EPA 8260B | 08/12/2004 |
| Toluene - d8 (Surr) | 103 | | % Recovery | EPA 8260B | 08/12/2004 |
| 4-Bromofluorobenzene (Surr) | 98.4 | | % Recovery | EPA 8260B | 08/12/2004 |
| TPH as Diesel | 510 | 50 | ug/L | M EPA 8015 | 08/10/2004 |
| Octacosane (Diesel Surrogate) | 104 | | % Recovery | M EPA 8015 | 08/10/2004 |

Approved By:

Joel Kiff



Report Number : 39542

Date : 08/15/2004

Project Name : NAZ EAGLE GAS

Project Number : ZP046

Sample : MW-2

Matrix : Water

Lab Number : 39542-02

Sample Date :08/06/2004

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|-------------------------------|----------------|------------------------|------------|-----------------|---------------|
| Benzene | 590 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Toluene | < 500 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Ethylbenzene | < 500 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Total Xylenes | < 500 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Methyl-t-butyl ether (MTBE) | 810000 | 2000 | ug/L | EPA 8260B | 08/14/2004 |
| Diisopropyl ether (DIPE) | < 500 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Ethyl-t-butyl ether (ETBE) | < 500 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Tert-amyl methyl ether (TAME) | 3600 | 500 | ug/L | EPA 8260B | 08/13/2004 |
| Tert-Butanol | 17000 J | 5000 | ug/L | EPA 8260B | 08/13/2004 |
| TPH as Gasoline | < 50000 | 50000 | ug/L | EPA 8260B | 08/13/2004 |
| Toluene - d8 (Surr) | 91.5 | | % Recovery | EPA 8260B | 08/13/2004 |
| 4-Bromofluorobenzene (Surr) | 109 | | % Recovery | EPA 8260B | 08/13/2004 |
| TPH as Diesel | 420 | 50 | ug/L | M EPA 8015 | 08/10/2004 |
| Octacosane (Diesel Surrogate) | 106 | | % Recovery | M EPA 8015 | 08/10/2004 |

Approved By:

Joel Kiff



Report Number : 39542

Date : 08/15/2004

Project Name : NAZ EAGLE GAS

Project Number : ZP046

Sample : MW-3

Matrix : Water

Lab Number : 39542-03

Sample Date :08/06/2004

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|-------------------------------|----------------|------------------------|------------|-----------------|---------------|
| Benzene | < 200 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Toluene | < 200 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Ethylbenzene | < 200 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Total Xylenes | < 200 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Methyl-t-butyl ether (MTBE) | 110000 | 250 | ug/L | EPA 8260B | 08/13/2004 |
| Diisopropyl ether (DIPE) | < 200 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Ethyl-t-butyl ether (ETBE) | < 200 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Tert-amyl methyl ether (TAME) | 760 | 200 | ug/L | EPA 8260B | 08/11/2004 |
| Tert-Butanol | < 2500 | 2500 | ug/L | EPA 8260B | 08/13/2004 |
| TPH as Gasoline | < 20000 | 20000 | ug/L | EPA 8260B | 08/11/2004 |
| Toluene - d8 (Surr) | 99.4 | | % Recovery | EPA 8260B | 08/11/2004 |
| 4-Bromofluorobenzene (Surr) | 101 | | % Recovery | EPA 8260B | 08/11/2004 |
| TPH as Diesel | 78 | 50 | ug/L | M EPA 8015 | 08/10/2004 |
| Octacosane (Diesel Surrogate) | 116 | | % Recovery | M EPA 8015 | 08/10/2004 |

Approved By:

Joel Kiff

Report Number : 39542

Date : 08/15/2004


QC Report : Method Blank Data

Project Name : NAZ EAGLE GAS

Project Number : ZP046

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|-------------------------------|----------------|------------------------|-------|-----------------|---------------|
| TPH as Diesel | < 50 | 50 | ug/L | M EPA 8015 | 08/10/2004 |
| Octacosane (Diesel Surrogate) | 112 | | % | M EPA 8015 | 08/10/2004 |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Toluene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Methyl-t-butyl ether (MTBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Diisopropyl ether (DIPE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Ethyl-t-butyl ether (ETBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-amyl methyl ether (TAME) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-Butanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 08/12/2004 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 08/12/2004 |
| Toluene - d8 (Surr) | 98.0 | | % | EPA 8260B | 08/12/2004 |
| 4-Bromofluorobenzene (Surr) | 93.4 | | % | EPA 8260B | 08/12/2004 |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| Toluene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| Diisopropyl ether (DIPE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| Ethyl-t-butyl ether (ETBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| Tert-amyl methyl ether (TAME) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/10/2004 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 08/10/2004 |
| Toluene - d8 (Surr) | 95.1 | | % | EPA 8260B | 08/10/2004 |
| 4-Bromofluorobenzene (Surr) | 110 | | % | EPA 8260B | 08/10/2004 |

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|-------------------------------|----------------|------------------------|-------|-----------------|---------------|
| Methyl-t-butyl ether (MTBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/13/2004 |
| Methyl-t-butyl ether (MTBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-Butanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 08/12/2004 |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Toluene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Diisopropyl ether (DIPE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Ethyl-t-butyl ether (ETBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-amyl methyl ether (TAME) | < 0.50 | 0.50 | ug/L | EPA 8260B | 08/12/2004 |
| Tert-Butanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 08/12/2004 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 08/12/2004 |
| Toluene - d8 (Surr) | 93.3 | | % | EPA 8260B | 08/12/2004 |
| 4-Bromofluorobenzene (Surr) | 110 | | % | EPA 8260B | 08/12/2004 |

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : NAZ EAGLE GAS

Project Number : ZP046

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|----------------------|---------------|--------------|-------------|------------------|---------------------|-------------------------------|-------|-----------------|---------------|------------------------------|--|------------------------|------------------------------------|------------------------------|
| TPH as Diesel | Blank | <50 | 1000 | 1000 | 991 | 1080 | ug/L | M EPA 8015 | 8/10/04 | 99.1 | 108 | 8.98 | 70-130 | 25 |
| Benzene | 39569-19 | <0.50 | 37.5 | 37.5 | 39.9 | 40.2 | ug/L | EPA 8260B | 8/12/04 | 106 | 107 | 0.892 | 70-130 | 25 |
| Toluene | 39569-19 | <0.50 | 37.5 | 37.5 | 39.4 | 40.0 | ug/L | EPA 8260B | 8/12/04 | 105 | 106 | 1.46 | 70-130 | 25 |
| Tert-Butanol | 39569-19 | <5.0 | 188 | 188 | 189 | 174 | ug/L | EPA 8260B | 8/12/04 | 101 | 93.0 | 7.93 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 39569-19 | 0.91 | 37.5 | 37.5 | 40.3 | 40.4 | ug/L | EPA 8260B | 8/12/04 | 105 | 105 | 0.121 | 70-130 | 25 |
| Benzene | 39557-01 | <0.50 | 40.0 | 40.0 | 39.3 | 38.8 | ug/L | EPA 8260B | 8/10/04 | 98.2 | 96.9 | 1.26 | 70-130 | 25 |
| Toluene | 39557-01 | <0.50 | 40.0 | 40.0 | 39.3 | 39.4 | ug/L | EPA 8260B | 8/10/04 | 98.2 | 98.5 | 0.290 | 70-130 | 25 |
| Tert-Butanol | 39557-01 | <5.0 | 200 | 200 | 199 | 206 | ug/L | EPA 8260B | 8/10/04 | 99.7 | 103 | 3.05 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 39557-01 | 6.3 | 40.0 | 40.0 | 50.1 | 51.0 | ug/L | EPA 8260B | 8/10/04 | 110 | 112 | 1.95 | 70-130 | 25 |
| Benzene | 39601-02 | <0.50 | 40.0 | 40.0 | 40.4 | 39.8 | ug/L | EPA 8260B | 8/13/04 | 101 | 99.4 | 1.63 | 70-130 | 25 |
| Toluene | 39601-02 | <0.50 | 40.0 | 40.0 | 38.6 | 38.5 | ug/L | EPA 8260B | 8/13/04 | 96.6 | 96.2 | 0.384 | 70-130 | 25 |
| Tert-Butanol | 39601-02 | 7300 | 200 | 200 | 7640 | 7460 | ug/L | EPA 8260B | 8/13/04 | 148 | 54.4 | 92.6 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 39601-02 | 10 | 40.0 | 40.0 | 48.2 | 50.4 | ug/L | EPA 8260B | 8/13/04 | 95.0 | 100 | 5.56 | 70-130 | 25 |
| Benzene | 39560-03 | 2.7 | 40.0 | 40.0 | 42.4 | 41.8 | ug/L | EPA 8260B | 8/12/04 | 99.2 | 97.8 | 1.40 | 70-130 | 25 |
| Toluene | 39560-03 | 13 | 40.0 | 40.0 | 52.0 | 51.9 | ug/L | EPA 8260B | 8/12/04 | 97.8 | 97.5 | 0.400 | 70-130 | 25 |
| Tert-Butanol | 39560-03 | 8.6 | 200 | 200 | 206 | 214 | ug/L | EPA 8260B | 8/12/04 | 98.6 | 102 | 3.93 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 39560-03 | 94 | 40.0 | 40.0 | 127 | 135 | ug/L | EPA 8260B | 8/12/04 | 83.1 | 101 | 19.8 | 70-130 | 25 |

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 39542

Date : 08/15/2004

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : NAZ EAGLE GAS

Project Number : ZP046

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|----------------------|---------------|--------------|-------------|------------------|---------------------|-------------------------------|-------|-----------------|---------------|------------------------------|--|------------------------|------------------------------------|------------------------------|
| Benzene | 39607-01 | <0.50 | 40.0 | 40.0 | 40.9 | 39.9 | ug/L | EPA 8260B | 8/13/04 | 102 | 99.8 | 2.52 | 70-130 | 25 |
| Toluene | 39607-01 | <0.50 | 40.0 | 40.0 | 41.3 | 40.5 | ug/L | EPA 8260B | 8/13/04 | 103 | 101 | 2.02 | 70-130 | 25 |
| Tert-Butanol | 39607-01 | <5.0 | 200 | 200 | 192 | 192 | ug/L | EPA 8260B | 8/13/04 | 96.1 | 96.3 | 0.198 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 39607-01 | <0.50 | 40.0 | 40.0 | 40.0 | 39.6 | ug/L | EPA 8260B | 8/13/04 | 100 | 98.9 | 1.10 | 70-130 | 25 |

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:  Joel Kiff

Report Number : 39542

Date : 08/15/2004

QC Report : Laboratory Control Sample (LCS)

Project Name : **NAZ EAGLE GAS**

Project Number : **ZP046**

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|----------------------|-------------|-------|-----------------|---------------|--------------------|--------------------------|
| Benzene | 40.0 | ug/L | EPA 8260B | 8/12/04 | 108 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 8/12/04 | 105 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 8/12/04 | 98.4 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 8/12/04 | 108 | 70-130 |
| Benzene | 40.0 | ug/L | EPA 8260B | 8/10/04 | 95.7 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 8/10/04 | 97.9 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 8/10/04 | 94.2 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 8/10/04 | 114 | 70-130 |
| Benzene | 40.0 | ug/L | EPA 8260B | 8/13/04 | 98.6 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 8/13/04 | 99.5 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 8/13/04 | 111 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 8/13/04 | 103 | 70-130 |
| Benzene | 40.0 | ug/L | EPA 8260B | 8/12/04 | 99.5 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 8/12/04 | 100 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 8/12/04 | 95.3 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 8/12/04 | 97.5 | 70-130 |
| Benzene | 40.0 | ug/L | EPA 8260B | 8/12/04 | 89.1 | 70-130 |

KIFF ANALYTICAL, LLC

Approved By:



 Joe Kiff

Report Number : 39542

Date : 08/15/2004

QC Report : Laboratory Control Sample (LCS)

Project Name : **NAZ EAGLE GAS**

Project Number : **ZP046**

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|----------------------|-------------|-------|-----------------|---------------|--------------------|--------------------------|
| Toluene | 40.0 | ug/L | EPA 8260B | 8/12/04 | 88.0 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 8/12/04 | 82.9 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 8/12/04 | 85.4 | 70-130 |

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