Mr. Jerry Wickinam
Ilazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection.
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

RE: Eagle Gas Station
4301 San Leandro Street
Oakland, California 1460 :
LOP SUDd 2118
Fuel Leak Case No. KOOOOO006
USTCF Claim No. 014551
Clearwater Group Project it 7P046H
Dear Mr. Wickham,
As the legally authorizes representative of the above-referenced project location I have reviewed the Groundwater Monitoring Report - First Quarter 2006 prepared by my consultant of record, Clearwere: Group. Inc. 1 declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of my knowicdge.

Sincerely.
Matamui Tamil
Mr. Muhammad Jami

# CLEARWATER 

# FILE COPY 

April 14, 2006

Mr. Jerry Wickham, Hazardous Materials Specialist

## RECEIVED

By lopprojectop at 11:23 am, May 11, 2006
Alameda County Environmental Health Services
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
RE: Groundwater Monitoring Report - First Quarter 2006
Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP StID\# 2118
USTCF Claim No. 014551
Clearwater Group Project No. ZP046H

Dear Mr. Wickham,
Clearwater Group (Clearwater) has prepared a First Quarter 2006 quarterly monitoring report for the subject site. This report presents the groundwater monitoring activities and associated results. Please note that:

1. Alameda County Environmental Health Services' (ACEH) review letter dated September 21, 2005 requested analysis for compounds ethanol, 1,2-Dichloroethane (DCA), and 1,2-Dibromoethane (EDB) for, at a minimum, two additional quarters. Thus, data for these compounds are included in the Fourth Quarter 2005 and the First Quarter 2006 monitoring reports (see Table 2). Concentrations of these compounds are less than the Method Reporting Limits (MRLs).
2. To comply with the on-site soil and groundwater investigation request in ACEH 21 September 2005 and 1 November 2005 letters, a total of 15 new wells, including seven monitoring wells, six oxygen delivery wells, and two groundwater extraction wells, were installed between December $15-20,2005$. Two deep monitoring wells (MW-4D and MW-5D) screened between 35 to 45 feet bgs, were included to monitor the level of groundwater impact and the magnitude of vertical migration of contaminants in the deeper subsurface groundwater. All new wells were developed on January 13, 2006.

Those new wells were installed and developed after the Fourth Quarter 2005 sampling event performed on November 16, 2006. All new wells and previously installed monitoring wells MW-1 through MW-3 were gauged and sampled during this monitoring event.
3. In order to provide baseline geochemical information for the interim remediation system that includes iSOC diffusers and groundwater extraction wells, water quality parameters such as dissolved oxygen (DO), oxidation-reduction potential (ORP), concentrations of total iron and ferrous iron, pH , groundwater temperature, and conductivity data were also collected from all on-site wells. Since the site still has very high gasoline hydrocarbon and oxygenate concentrations, indigenous microorganisms are not efficiently degrading those contaminants. Thus, collecting data for monitored natural attenuation (MNA) that includes biodegradation is not useful at this time. Pending the performance of the iSOC bio-enhanced interim remediation, a baseline microbiological data will be collected in the future if the iSOC diffusers are found to be effective and can be improved.
4. To delineate the on-site groundwater elevation distribution, and also to meet the Geotracker data requirements, a well casing elevation/coordinates survey was conducted on March 16, 2006.

The associated soil and groundwater investigation report is being prepared, and will be submitted by May 23, 2006. Enclosed please find a copy of the First Quarter 2006 Groundwater Monitoring Report for the above referenced site. If you have any questions regarding this monitoring report, please do not hesitate to call me at (510) 307-9943 ext 231.

Sincerely,

## Clearwater Group



Jim Ho, Ph.D., P.E.
Principal Engineer
Enclosure

Environmental Services

April 14, 2006
FILE COPY
San Francisco Bay Region
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

## RE: Groundwater Monitoring Report - First Quarter 2006

Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP SID\# 2118
USTCF Claim No. 014551
Clearwater Group Project No. ZP046H

## Dear Sir/Madam:

Enclosed please find a copy of the First Quarter 2006 Groundwater Monitoring Report prepared for the above referenced property for your files. If you have any questions regarding the status of the project, please do not hesitate to call me at (510) 307-9943 ext 231.

Sincerely,

## Clearwater Group


$v d o$
Jim Ho, Ph.D., P.E., CGWP
Principal Engineer

## Enclosure

# CLEARWATER <br> $G R O U P$ 

## RECEIVED <br> By lopprojectop at 11:23 am, May 11, 2006

April 14, 2006

Mr. Muhammad Jamil

## RE: Groundwater Monitoring Report - First Quarter 2006

Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP StID\# 2118
USTCF Claim No. 014551
Clearwater Group Project No. ZP046H

Dear Mr. Jamil,
Enclosed please find a copy of the First Quarter 2006 Groundwater Monitoring Report prepared for the subject property. I have forwarded the original to the Alameda County Environmental Health Services (ACEHS) on your behalf.

Following ACEH requests included in letters dated 26 May 2005, 21 September 2005, and 1 November 2005, we have completed an on-site soil and groundwater investigation, and are currently preparing the summary report as well as applying for the permit for an interim remedial system for the subject property. If there are any questions regarding the status of the project, please do not hesitate to call me at (510) 307-9943 ext 231.

Thank you so much for your cooperation and support for this site closure effort.
Sincerely,

## Clearwater Group



Jim Ho, Ph.D., P.E., CGWP
Principal Engineer

Enclosure

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

## RECEIVED

By lopprojectop at 11:23 am, May 11, 2006

## Re: Quarterly Groundwater Monitoring Report - First Quarter 2006

## Eagle Gas Station

4301 San Leandro Street
Oakland, California 94601
LOP Site ID\# 2118
USTCF Claim No. 014551
Clearwater Project No. ZP046H

Clearwater Group (Clearwater) has prepared a First Quarter 2006 quarterly monitoring report for the subject site. This report presents the groundwater monitoring activities and associated results.

## SITE DESCRIPTION

The site is located in the southern portion of Oakland, Alameda County, California at the southern corner of the intersection of San Leandro Street and High Street, and is approximately 1,000 feet east of Interstate Highway 880 (Figure 1). The site is bounded by commercial property to the southeast, southwest and northwest and by the elevated Bay Area Rapid Transit (BART) tracks to the northeast (see Figure 2). 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 bgs in some areas.

## BACKGROUND

On 21 and 22 April 1999, Clearwater (formerly Artesian Environmental) oversaw the removal of five underground storage tanks (USTs) consisting of two 6,000-gallon gasoline tanks, two 4,000 -gallon diesel tanks, and one 300 -gallon used-oil tank from the site. Strong petroleum odors were detected from soils near the former UST locations
during field observation. A total of five soil samples and three groundwater samples were collected from the UST excavation for confirmation. Laboratory analysis suggested that an unauthorized release of petroleum had occurred. The former UST excavation area is shown in Figure 2 and was defined by driven steel structural shoring installed to protect onsite and offsite buildings.

In a letter dated 10 May 1999, the ACEHS recommended that soil be remediated by overexcavation and "as much groundwater as possible" be pumped from the excavation. Approximately 800 tons of petroleum-impacted soils were excavated and disposed of as Class II non-hazardous waste; and approximately 1,000 gallons of petroleum-impacted groundwater was pumped and removed from the site. Groundwater did not recharge quickly after the initial pumping due to the steel shoring. Existing on- and off-site structures and associated shoring limited the amount of soil that could be safely excavated. Soil samples collected from the excavation walls and product-piping trenches indicated that residual concentrations of petroleum hydrocarbons and methyl-tert-butylether (MTBE) still existed.

On 4 and 5 August 1999, approximately 100 linear feet of product piping was removed. Vent piping from between the former USTs and the southern corner of the on-site building was also removed. All piping was cut up and disposed of as scrap metal. On 5 August 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 from each of the four former fuel dispensers. Laboratory analytical results indicated that hydrocarbon-related contamination existed along the piping trenches.

On 26 September 2000, West Hazmat of Rancho Cordova, California, used a CME 75 drill rig to advance three borings to approximately 25 feet bgs and collect soil samples. Each of the three borings was converted to a groundwater-monitoring well (see Figure 2) using clean, flush-threaded, 2-inch diameter polyvinyl chloride (PVC) for well casing. The construction data for these three wells are presented in Table 1.

On 3 and 10 October 2000, Clearwater surveyed the top of the casing elevation for each of the wells relative to an arbitrary datum, and developed the wells for monitoring purposes. Initial groundwater samples collected from these wells contained 83,000 micrograms per liter ( $\mu \mathrm{g} / \mathrm{L}$ ) to $250,000 \mu \mathrm{~g} / \mathrm{L}$ total petroleum hydrocarbon as gasoline (TPH-g) and $33,000 \mu \mathrm{~g} / \mathrm{L}$ to $400,000 \mu \mathrm{~g} / \mathrm{L} \mathrm{MTBE}$.

On 3 August 2001, Clearwater submitted its Groundwater Monitoring Report - Second Quarter 2001 and Sensitive Receptor Survey and Workplan for Continuing Investigation. It was determined, at that time, that there were 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 MTBE plume in groundwater. In response to Clearwater's workplan, ACEH staff, in a correspondence dated 18 October 2001, recommended that the installation of additional off-site wells not be performed for the time being. Instead, ACEH staff requested that further characterization of subsurface soils and groundwater on the subject site be completed prior to the installation of any off-site wells.

Quarterly monitoring was suspended after the Third Quarter 2001 event that took place on August 3, 2001. Quarterly monitoring resumed in July 2003 and has continued every quarter since then. The historical groundwater monitoring and sampling results are listed in Table 2.

On 9 January 2004, after completing its review of the Third Quarter 2003 groundwater monitoring report, ACEH staff requested a work plan to include additional on-site and off-site subsurface investigations and address the extent of groundwater impact on site. Clearwater staff, then, proceeded to submit an Interim Remedial Action Plan (IRAP) as requested by ACEH staff on 14 January 2004.

In order to expedite the implementation of the IRAP, Clearwater formally requested Oakland Fire Department to review the IRAP and the Fourth Quarter 2004 groundwater monitoring report as well as to oversee the project. The Fire Department verbally agreed to oversee this project. The correspondence is shown in letters to the Fire Department dated 3 and 15 December 2004. Fire Department turned the project over to ACEH. ACEH provided its review comments for the IRAP and the First Quarter 2005 Groundwater Monitoring Report in a letter dated May 26, 2005. Pursuant to ACEH request described in this letter, Clearwater submitted a Soil and Groundwater Investigation Workplan on August 10, 2005. In review letters dated September 21, 2005 and November 1, 2005, ACEH approved the implementation of a modified IRAP proposed in Clearwater's June 13, 2005 letter entitled "Recommendations for Interim Remedial Actions" and the August 10, 2005 Soil and Groundwater Investigation Workplan. Based on the above documents and correspondences, Clearwater conducted Geoprobe soil and groundwater sampling during December 6-9, 2005 and March 29 April 2, 2006, and installed 15 additional on-site wells during December 15-20, 2005. In order to monitor the level of groundwater impact and the magnitude of vertical migration of contaminants in deeper groundwater, two deep monitoring wells MW-4D and MW-5D screened between 35 to 45 feet bgs were also installed. The construction data for all the new wells are also presented in Table 1.

## GROUNDWATER MONITORING ACTIVITIES

The First Quarter 2006 groundwater monitoring event was performed on February 21 and 22,2006 . The event included gauging of groundwater depth, well purging and sampling, and laboratory analysis of groundwater samples. These activities are described below:

## Groundwater Gauging, Purging, and Sampling

On 22 February 2006, all available on-site wells (18 wells) were monitored. An electronic water level indicator accurate to within $\pm 0.01$ feet was used to gauge the depth to water. All wells were checked for the presence of Separate Phase Hydrocarbons (SPH) prior to purging.

Prior to groundwater sampling, all wells were purged of groundwater until measurements of temperature, pH , and conductivity stabilized which occurred by removal of approximately three wetted casing volumes. Depth to water and well purging information were recorded on Well Gauging/Purging Calculations and Purging Data Sheets (see Attachment 1). Purging devices were decontaminated between wells with an Alconox ${ }^{\circledR}$ wash followed by double rinsing in clean tap water to prevent cross-contamination. Purge water and rinseate were pumped into 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 wells using disposable polyethylene bailers. The samples were labeled, documented on a chain-of-custody form, and placed on ice in a chilled cooler for transport to the project laboratory.

All work was performed in accordance with Clearwater's Groundwater Monitoring and Sampling Field Procedures (see Attachment 2).

## Laboratory Analysis

Groundwater samples were analyzed by Kiff Analytical LLC, a California Department of Health Services certified laboratory, located in Davis, California. The samples were analyzed by EPA Method 8260B for TPH-g, benzene, toluene, ethylbenzene, and xylenes (BTEX), seven oxygenates that included MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tert-butanol (TBA), methanol, and ethanol, and lead scavengers: DCA, and EDB. Analysis for TPH-d was conducted by EPA Method 8015 M . Complete laboratory analytical reports including chain-of-custody forms are included in Attachment 3.

## GROUNDWATER MONITORING RESULTS

During well purging, hydrocarbon like odors were easily detected from monitoring wells MW-1 through MW-8, iSOC wells IS-1 through IS-6, and extraction wells EW-1 and EW-2. This may indicate the existence of high concentrations of volatiles in groundwater. Sheen was found in monitoring wells MW-1, MW-2, MW-4, MW-7, MW-8, and iSOC wells IS-1 through IS-6 and extraction wells EW-1 and EW-2. More sheen was also observed in well IS-5. This suggests the presence of low solubility hydrocarbon product or semi-volatiles such as THP-d in those wells. This judgment has been confirmed by the elevated TPH-d and TPH-g concentrations of $35,000 \mu \mathrm{~g} / \mathrm{L}$ and $66,000 \mu \mathrm{~g} / \mathrm{L}$ respectively detected in well IS-5 during this monitoring event. These data are included in the

## CLEARWATER

laboratory analysis report. All wells exhibited some level of turbidity, ranging from low to high. Colors of the water ranged from tan, brown to gray. Water purged from wells IS5 and MW-4 had high turbidity. Groundwater in the other wells had moderate to low turbidity. Also, it should be noted that:

1. No sheen and odor was identified in deep monitoring wells MW-4D and MW-5D.
2. Groundwater recovered slowly in all on-site wells after purging.

## Groundwater Elevation and Flow

On 21 February 2006, depths to groundwater in shallow monitoring wells ranged from 6.63 feet (MW-5) to 12.69 (MW-2) feet bgs. Depths to groundwater for deep monitoring wells MW-4D and MW-5D were 15.58 feet and 13.68 feet bgs, respectively (see Table 2 ). Both the depth to groundwater data and the top of casing elevations surveyed on March 16, 2006 were used to calculate the groundwater elevation. The calculated shallow groundwater elevation ranged from 13.95 feet (IS-2) to 9.36 feet (MW-2) above mean sea level ( msl ). The deep groundwater elevation for deep monitoring wells MW-4D and MW-5D was 5.96 feet and 6.64 feet above msl, respectively. The average groundwater elevations in shallow and deep water-bearing zones are, respectively, 12.57 feet and 6.30 feet above msl. A groundwater elevation contour map for the shallow groundwater was generated and is shown in Figure 3.

Compared to previous groundwater elevation data (when only three monitoring wells MW-1 through MW-3 were available) with the addition of 15 more data points, the following major differences have been clearly identified:

- The groundwater elevation contours observed in this quarterly monitoring event, when data from 16 shallow wells are available, has much higher resolution;
- As opposed to the east and southeast groundwater flow directions often determined in the past, the groundwater flow identified during this monitoring event are in the northwest and southwest directions assuming all shallow wells are located in the same water bearing zone;
- Higher groundwater elevation is found in the east portion of the subject property; and
- A downward groundwater gradient has been found. The calculated vertical hydraulic gradient is approximately $0.28 \mathrm{ft} / \mathrm{ft}$.


## Laboratory Analytical Results

Like the conditions indicated by historical data, both diesel-range and gasoline-range hydrocarbons were again detected in samples collected from all shallow wells. The highest TPH-d and TPH-g concentrations of $35,000 \mu \mathrm{~g} / \mathrm{L}$ and $66,000 \mu \mathrm{~g} / \mathrm{L}$ were found in well IS-5. The level of TPH-g concentration in groundwater under the site is likely much higher than the TPH-d concentration. This judgment can be supported by relatively high benzene concentrations obtained from shallow groundwater. High benzene concentrations have been detected in wells MW-4 (3,200 $\mu \mathrm{g} / \mathrm{L})$, MW-8 ( $1,200 \mu \mathrm{~g} / \mathrm{L}$ ), IS$2(1,200 \mu \mathrm{~g} / \mathrm{L})$, IS-3 ( $2,700 \mu \mathrm{~g} / \mathrm{L}$ ), IS-5 ( $4,100 \mu \mathrm{~g} / \mathrm{L}$ ), IS-6 (1,000 $\mu \mathrm{g} / \mathrm{L})$, EW-1 (3,100 $\mu \mathrm{g} / \mathrm{L})$, and EW-2 $(1,800 \mu \mathrm{~g} / \mathrm{L})$. The level of groundwater impact at the site has not significantly changed after including all the analytical data obtained from 18 wells. Elevated levels of MTBE and TBA still exist. High MTBE concentration is found in wells MW-2 ( $400,000 \mu \mathrm{~g} / \mathrm{L}$ ), MW-4 (770,000 $\mu \mathrm{g} / \mathrm{L}$ ), MW-5 ( $480,000 \mu \mathrm{~g} / \mathrm{L}$ ), MW-8 $(400,000 \mu \mathrm{~g} / \mathrm{L})$, IS-3 ( $750,000 \mu \mathrm{~g} / \mathrm{L}$ ), IS-5 $(420,000 \mu \mathrm{~g} / \mathrm{L})$, and EW-1 $(700,000 \mu \mathrm{~g} / \mathrm{L})$. Relatively high TBA concentration is found in wells MW-1 $(120,000 \mu \mathrm{~g} / \mathrm{L}), \mathrm{MW}-2$ $(130,000 \mu \mathrm{~g} / \mathrm{L})$, IS-1 ( $130,000 \mu \mathrm{~g} / \mathrm{L}$ ), and IS-6 $(210,000 \mu \mathrm{~g} / \mathrm{L})$. Laboratory analytical data for the above results are listed in Table 2 as well as shown in Figure 4.

Based on the geochemical data obtained from this quarterly monitoring event, it is worth noting that:

- A similar level of DO is found in shallow and deep groundwater. DO ranges from $3.06 \mathrm{mg} / \mathrm{L}$ (IS-1) to $5.94 \mathrm{mg} / \mathrm{L}$ (MW-4D) except for well IS-5. Since well IS-5 has the highest TPH-d and TPH-g concentrations, the associated DO is only $0.64 \mathrm{mg} / \mathrm{L}$.
- Both DO and ORP data indicate that on-site groundwater is still slightly aerobic, except for water near well IS-5. The data of pH , temperature, and conductivity are normal and typical.
- The high concentrations of hydrocarbons and oxygenates are at a level that might inhibit aerobic biodegradation.

The field-measured water quality data are included in Table 3.

## FINDINGS AND CONCLUSIONS

Based on the First Quarter 2006 monitoring results discussed above, findings for this monitoring event are listed below:

- The local groundwater distribution is complicated due to discontinuous gravel and sand lenses within the clayey sediment. As a result, the local groundwater cannot be
simply delineated by horizontal groundwater elevation contours. The contour map presented in Figure 3 can only be used as a general reference.
- The dominance of clayey sediment under the site has been reflected by the slow groundwater recovery rate and low groundwater yield. Groundwater under the subject site is likely to be under confined or semi-confined conditions.
- Although a strong vertical gradient has been identified at the site, due to the presence of thick clayey sediment, molecular diffusion is very likely to be the primary mechanism that controls the migration of contaminants in the vertical direction.
- The highest TPH-d and TPH-g concentrations actually exist in well IS-5, which is near an existing dispenser island. This situation could not have been identified if only data from the original monitoring wells MW-1 through MW-3 were used.
- Although groundwater in shallow wells MW-4 and MW-5 is greatly impacted, deep groundwater at the same locations is still relatively clean. The highest MTBE and TBA concentrations in the deeper groundwater zone are $440 \mu \mathrm{~g} / \mathrm{L}$ and $5.5 \mu \mathrm{~g} / \mathrm{L}$, respectively. The TPH-d, TPH-g, and BTEX compounds in the deeper zone have concentrations that are less than the associated MRLs.
- Major groundwater impact is found in wells MW-2, MW-4, MW-5, MW-8, IS-3 through IS-6, and EW-1. Except for wells MW-2 and EW-1, these most contaminated wells are located in the upgradient portion of the subject site.
- Except for water near well IS-5, local groundwater is not anaerobic.
- Based on the groundwater distribution and analytical data obtained from this monitoring event, the former UST excavation area does not seem to be the source of local groundwater impact. Conversely, the eastern dispenser island could very likely be a significant source.
- Since well MW-2 is located downgradient from the suspected source area, the existence of high MTBE and TBA concentrations in MW-2 suggests that residual MTBE still exists at the subject site.


## FORECASTED ACTIVITIES

The ACEH letter dated May 26, 2005 requested the following activities for the subject site: implementation of an interim remedial action, performance of a three-dimensional soil and groundwater investigation, preparation of a Corrective Action Plan, and continuous quarterly groundwater monitoring.

Clearwater has completed the fieldwork required for the soil and groundwater investigation discussed in the Soil and Groundwater Investigation Workplan dated August 10, 2005. This workplan has been reviewed and approved by ACEH with minor comments in letters dated September 21, 2005 and November 1, 2005. The investigation report is currently being prepared. Clearwater also has completed the design of an interim remedial system. The City of Oakland Planning Department has verbally approved the sewer discharge permit for the remedial system. Clearwater will begin the selection of contractors for installation of the remediation compound after the permit is available.

## FIGURES

Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: Groundwater Elevation Map - 2/21/06
Figure 4: Dissolved Hydrocarbon Map - 2/22/06

## TABLES

Table 1: Well Construction Data
Table 2: Groundwater Elevations and Sample Analytical Results
Table 3: Water Quality 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 Region
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

## CERTIFICATION

This report was prepared under the supervision of a Professional Geologist in the State of California. All statements, conclusions and recommendations are based solely upon published results from previous consultants, field observations by Clearwater staff and laboratory analyses performed by a State of California certified laboratory related to the work performed by Clearwater staff.

Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service provided by Clearwater staff 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.

Sincerely,

## Clearwater Group

Prepared by:



Jim Ho, Ph.D., CGWP Principal Engineer


Figures





Tables

Table 1
WELL CONSTRUCTION DATA
Eagle Gas
4301 San Leandro Street
Oakland, California
Clearwater Group Project No. ZP046H
$\left.\begin{array}{ccccccccccc}\text { Well } & \begin{array}{c}\text { Date } \\ \text { Intstalled }\end{array} & \begin{array}{c}\text { Installed } \\ \text { by }\end{array} & \begin{array}{c}\text { Borehole } \\ \text { Diameter } \\ \text { (inches) }\end{array} & \begin{array}{c}\text { Casing } \\ \text { Diameter } \\ \text { (inches) }\end{array} & \begin{array}{c}\text { Depth of } \\ \text { Borehole } \\ \text { (feet) }\end{array} & \begin{array}{c}\text { Cement }\end{array} & \begin{array}{c}\text { Bentonite } \\ \text { Seal } \\ \text { (feet) }\end{array} & \begin{array}{c}\text { Filter } \\ \text { (feet) }\end{array} & \begin{array}{c}\text { Filter } \\ \text { Pack } \\ \text { (feet) }\end{array} & \begin{array}{c}\text { Screened } \\ \text { Material }\end{array} \\ \text { Interval } \\ \text { (feet) }\end{array} \begin{array}{c}\text { Slot } \\ \text { Size } \\ \text { (inches) }\end{array}\right)$

Note: All depths and Intervals are below ground surface

TABLE 2
GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Eagle Gas Station
4301 San Leandro Stree
Oakland, California

| $\begin{aligned} & \text { Sample } \\ & \text { ID } \end{aligned}$ | Sample Date | $\begin{aligned} & \text { TOC } \\ & \text { (feet) } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { DTW } \\ & \text { (feet) } \end{aligned}$ | $\begin{aligned} & \text { GWE } \\ & \text { (feet) } \end{aligned}$ | $\begin{aligned} & \text { TPH-d } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { TPH-g } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{gathered} B \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} T \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\underset{(\mu \mathrm{g} / \mathrm{L})}{\mathrm{E}}$ | $\begin{gathered} \mathrm{X} \\ (\mu \mathrm{~g} / \mathrm{L}) \\ \hline \end{gathered}$ | MTBE ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{aligned} & \text { DIPE } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { ETBE } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { TAME } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{gathered} \text { TBA } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} \text { Methanol } \\ (\mu \mathrm{g} / \mathrm{L}) \\ \hline \end{gathered}$ | Ethanol $(\mu \mathrm{g} / \mathrm{L})$ | $\begin{gathered} \text { DCA } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} \text { EDB } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MW-1 | 10/3/2000 | 18.37 | 8.96 | 9.41 | 460 | 93,000 | <500 | < 500 | <500 | < 500 | 130,000 | <10,000 | <10,000 | <10,000 | <2,000 | $\cdots$ | --- | -- | -- |
|  | 10/27/2000 | 18.37 | 7.27 | 11.10 | --- | --- | --- | --- | -- | --- | $\cdots$ | - | --- | -- | $\cdots$ | --- | --- | --- | --- |
|  | 1/26/2001 | 18.37 | 7.60 | 10.77 | 1,600* | 51,000 | 270 | <100 | $<100$ | <100 | 77,000 | <5,000 | <5,000 | <5,000 | <20,000 | --- | --- | --- | --- |
|  | 5/8/2001 | 18.37 | 7.50 | 10.87 | 470* | 36,000* | <100 | <100 | <100 | $<100$ | 15,000 | <5,000 | <5,000 | <5,000 | <20,000 | -- | -- | --- | --- |
|  | 8/3/2001 | 18.37 | 7.09 | 11.28 | 2,200* | 19,000* | <50 | 59 | $<50$ | <50 | 96,000 | <5,000 | <5,000 | <5,000 | <20,000 | -- | -- | --- | $\cdots$ |
|  | 7/1/2003 | 18.37 | 7.59 | 10.78 | 3,000 | <25,000 | <250 | <250 | <250 | <250 | 170,000 | <250 | <250 | 980 | 8700 | --- | -- | --- | - |
|  | 10/1/2003 | 18.37 | 8.36 | 10.01 | 2,600 | <20,000 | <200 | <200 | <200 | <200 | 69,000 | <200 | <200 | 270 | 15,000 | --- | --- | --- | -- |
|  | 2/13/2004 | 18.37 | 8.80 | 9.57 | 1,800 | <10,000 | <100 | $<100$ | <100 | <100 | 85,000 | <100 | $<100$ | 390 | 79,000 | --- | $\cdots$ | --- | -- |
|  | 5/17/2004 | 18.37 | 10.92 | 7.45 | 5,400 | <15,000 | <150 | <150 | <150 | <150 | 60,000 | $<150$ | <150 | 260 | 160,000 | --- | --- | --- | --- |
|  | 8/6/2004 | 18.37 | 7.76 | 10.61 | 510 | <10,000 | <100 | <100 | $<100$ | <100 | 26,000 | $<100$ | <100 | 100 | 250,000 | --- | --- | --- | --- |
|  | 11/12/2004 | 18.37 | 9.25 | 9.12 | 3,500 | <5,000 | <50 | <50 | <50 | <50 | 25,000 | $<50$ | $<50$ | 150 | 160,000 | -- | $\cdots$ | --- | --- |
|  | 2/15/2005 | 18.37 | 10.12 | 8.25 | 2,900 | <5,000 | $<50$ | <50 | $<50$ | $<50$ | 12,000 | <50 | < 50 | 70 | 160,000 | -- | --- | -- | --- |
|  | 5/9/2005 | 18.37 | 9.58 | 8.79 | 1,700 | <5,000 | <50 | <50 | <50 | $<50$ | 11,000 | $<50$ | $<50$ | 53 | 200,000 | -- | -- | -- | --- |
|  | 8/8/2005** | 20.08 | 10.09 | 9.99 | 2,000 | <5,000 | < 50 | $<50$ | <50 | <50 | 8,500 | <50 | $<50$ | $<50$ | 250,000 | --- | - | $\cdots$ | --- |
|  | 11/16/2005 | 20.08 | 9.81 | 10.27 | 3,600 | <5,000 | <50 | <50 | $<50$ | <50 | 3,800 | $<50$ | $<50$ | $<50$ | 140,000 | <5,000 | $<500$ | $<50$ | $<50$ |
|  | 2/22/2006 | 20.08 | 9.58 | 10.50 | 2,600 | <5,000 | $<50$ | <50 | $<50$ | <50 | 5,800 | $<50$ | $<50$ | $<50$ | 120,000 | <5,000 | $<500$ | $<50$ | $<50$ |
| MW-2 | 10/3/2000 | 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 | --- | --- | --- | --- |
|  | 10/27/2000 | 20.28 | 13.88 | 6.40 | --- | --- | --- | --- | --- | --- | -- | - | -- | -- | -- | --- | --- | --- | --- |
|  | 1/26/2001 | 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 | --- | -- | -- | --- |
|  | 5/8/2001 | 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 | --- | --- | --- | --- |
|  | 8/3/2001 | 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 | - | -- | -- | --- |
|  | 7/1/2003 | 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 | - | -- | -- | --- |
|  | 10/1/2003 | 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 | -- | -- | --- | --- |
|  | 2/13/2004 | 20.28 | 13.88 | 6.40 | 1200 | <20,000 | 860 | <200 | 260 | <200 | 710,000 | <200 | <200 | 2,000 | <25,000 | --- | --- | --- | --- |
|  | 5/17/2004 | 20.38 | 14.68 | 5.70 | 2,500 | <50000 | 860 | <500 | <500 | <500 | 760,000 | $<500$ | $<500$ | 2,500 | 13000 J | +-- | - | --- | --- |
|  | 8/6/2004 | 20.38 | 15.36 | 5.02 | 420 | <50000 | 590 | <500 | <500 | $<500$ | 810,000 | <500 | <500 | 3,600 | 17,000J | --- | -- | --- | --- |
|  | 11/12/2004 | 20.38 | 15.49 | 4.89 | 500 | <150,000 | <1500 | <1500 | <1500 | <1500 | 700,000 | <1500 | <1500 | 2,800 | 25,000J | --- | --- | -- | --- |
|  | 2/15/2005 | 20.38 | 14.16 | 6.22 | 990 | <150,000 | <1,500 | <1,500 | <1,500 | <1,500 | 630,000 | <1,500 | <1,500 | 2,600 | 32,000 | --- | -- | --- | --- |
|  | 5/9/2005 | 20.38 | 13.62 | 6.76 | 1,100 | <150,000 | <1,500 | <1,500 | <1,500 | <1,500 | 570,000 | <1,500 | <1,500 | 2,300 | 32,000 | -- | --- | -- | --- |

TABLE 2
GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Eagle Gas Station
4301 San Leandro Street
Oakland, California

| Sample ID | Sample Date | $\begin{aligned} & \text { TOC } \\ & \text { (feet) } \\ & \hline \end{aligned}$ | DTW <br> (feet) | GWE <br> (feet) | $\begin{aligned} & \text { TPH-d } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { TPH-g } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{gathered} B \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} \mathrm{T} \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\underset{(\mu \mathrm{g} / \mathrm{L})}{\mathrm{E}}$ | $\underset{(\mu \mathrm{g} / \mathrm{L})}{\mathrm{X}}$ | MTBE ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{gathered} \text { DIPE } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | $\begin{aligned} & \text { ETBE } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | TAME ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{gathered} \text { TBA } \\ (\mu \mathrm{g} / \mathrm{L}) \\ \hline \end{gathered}$ | Methanol ( $\mu \mathrm{g} / \mathrm{L}$ ) | Ethanol ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{gathered} \text { DCA } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} \text { EDB } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MW-2 | 8/8/2005" | 22.05 | 13.36 | 8.69 | 770 | <150,000 | <1,500 | <1,500 | <1,500 | <1,500 | 770,000 | <1,500 | <1,500 | 2,200 | 85,000 | -- | --- | --- | --- |
|  | 11/16/2005 | 22.05 | 14.51 | 7.54 | 890 | <70,000 | $<700$ | $<700$ | $<700$ | $<700$ | 430,000 | $<700$ | $<700$ | 2,100 | 130,000 | <100,000 | <7,000 | <700 | $<700$ |
|  | 2/22/2006 | 22.05 | 12.69 | 9.36 | <1,500 | <70,000 | 800 | $<700$ | $<700$ | $<700$ | 400,000 | $<700$ | <700 | 1,700 | 130,000 | <70,000 | <7,000 | <700 | <700 |
| MW-3 | 10/3/2000 | 18.98 | --- | --- | 120 | 83,000 | <500 | <500 | <500 | $<500$ | 33,000 | <2,500 | <2,500 | <2,500 | <10,000 | --- | -- | --- | - |
|  | 10/27/2000 | 18.98 | 18.75 | 0.23 | --- | --- | -- | --- | -- | --- | -- | -- | --- | --- | --- | --- | $\cdots$ | --- | --- |
|  | 1/26/2001 | 18.98 | 13.38 | 5.60 | 900* | 230,000 | 930 | $<500$ | $<500$ | $<500$ | 330,000 | <25,000 | <25,000 | <25,000 | <100,000 | --- | -- | --- | -- |
|  | 5/8/2001 | 18.98 | 11.82 | 7.16 | 1,100* | 95,000 | 840 | <250 | <250 | <250 | 390,000 | <12,500 | <12,500 | <12,500 | <50,000 | -- | --- | --- | -- |
|  | 8/3/2001 | 18.98 | 13.44 | 5.54 | 290* | $30,000^{*}$ | $<50$ | 51 | $<50$ | $<50$ | 270,000 | <12,500 | <12,500 | <12,500 | <50,000 | --- | --- | $\cdots$ | --- |
|  | 7/1/2003 | 18.98 | 12.67 | 6.31 | 620 | <50,000 | $<500$ | < 500 | $<500$ | <500 | 230,000 | $<500$ | $<500$ | 1,800 | <5,000 | -- | --- | --- | --- |
|  | 10/1/2003 | 18.98 | 14.04 | 4.94 | 370 | <20,000 | <200 | <200 | <200 | <200 | 120,000 | <200 | <200 | 1,200 | <5,000 | --- | -- | --- | -- |
|  | 2/13/2004 | 18.98 | 12.20 | 6.78 | 430 | <20,000 | 280 | $<200$ | <200 | <200 | 210,000 | <200 | <200 | 1,200 | <5000 | --- | --- | --- | --- |
|  | 5/17/2004 | 18.98 | 11.87 | 7.11 | 920 | <25,000 | <250 | <250 | <250 | <250 | 150,000 | <250 | <250 | 1,100 | 5600 J | --- | --- | --- | --- |
|  | 8/6/2004 | 18.98 | 13.07 | 5.91 | 78 | $<20,000$ | <200 | <200 | <200 | <200 | 110,000 | <200 | <200 | 760 | <2,500 | $\cdots$ | $\cdots$ | -- | --- |
|  | 11/12/2004 | 18.98 | 12.83 | 6.15 | 120 | $<20,000$ | <200 | $<200$ | <200 | <200 | 100,000 | $<200$ | <200 | 660 | 6,000 | -- | --- | --- | --- |
|  | 2/15/2005 | 18.98 | 11.95 | 7.03 | 130 | <25,000 | <250 | $<250$ | <250 | <250 | 110,000 | <250 | <250 | 760 | 12,000 | --- | -- | $\cdots$ | --- |
|  | 5/9/2005 | 18.98 | 10.51 | 8.47 | 320 | <15,000 | <150 | <150 | <150 | <150 | 97,000 | <150 | <150 | 780 | 30,000 | -- | --- | -- | --- |
|  | 8/8/2005** | 20.73 | 10.98 | 9.75 | 180 | <15,000 | <150 | <150 | <150 | <150 | 75,000 | <150 | <150 | 500 | 44,000 | --- | -- | -- | --- |
|  | 11/16/2005 | 20.73 | 12.89 | 7.84 | <200 | <5,000 | <50 | $<50$ | <50 | $<50$ | 37,000 | <50 | $<50$ | 190 | 38,000 | <5,000 | <500 | $<50$ | $<50$ |
|  | 2/22/2006 | 20.73 | 10.31 | 10.42 | $<600$ | <5,000 | 88 | $<50$ | <50 | <50 | 57,000 | $<50$ | <50 | 420 | 65,000 | <9,000 | <500 | <50 | <50 |
| MW-4 | 2/22/2006 | 21.63 | 7.87 | 13.76 | <8,000 | <150,000 | 3,200 | 2,000 | 1,600 | 3,800 | 770,000 | <1,500 | <1,500 | 3,300 | 59,000 | <150,000 | <15,000 | <1,500 | <1,500 |
| MW-4D | 2/22/2006 | 21.54 | 15.58 | 5.96 | <50 | $<90$ | <0.90 | <0.90 | <0.90 | <0.90 | 440 | <0.90 | <0.90 | 2 | <5.0 | <90 | <9.0 | <0.90 | <0.90 |
| MW-5 | 2/22/2006 | 20.48 | 6.63 | 13.85 | <3,000 | <10,000 | 460 | <100 | 170 | <100 | 480,000 | <100 | <100 | 3,000 | 95,000 | <90,000 | <1,000 | <100 | <100 |
| MW-5D | 2/22/2006 | 20.32 | 13.68 | 6.64 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | 8.1 | <0.50 | <0.50 | <0.50 | 5.5 | ${ }^{\dagger}<50$ | <5.0 | <0.50 | <0.50 |
| MW-6 | 2/22/2006 | 20.45 | 9.88 | 10.57 | 2,900 | <10,000 | 620 | <100 | <100 | <100 | 50,000 | <100 | <100 | 210 | 24,000 | <10,000 | <1,000 | <100 | <100 |
| MW-7 | 2/22/2006 | 21.13 | 11.72 | 9.41 | 400 | <10,000 | <100 | <100 | <100 | <100 | 88,000 | <100 | <100 | 430 | 90,000 | <10,000 | <1,000 | <100 | <100 |

## TABLE 2

## GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Eagle Gas Station
4301 San Leandro Street
Oakland, California

| Sample ID | Sample Date | $\begin{aligned} & \text { TOC } \\ & \text { (feet) } \end{aligned}$ | $\begin{aligned} & \text { DTW } \\ & \text { (feet) } \end{aligned}$ | $\begin{aligned} & \text { GWE } \\ & \text { (feet) } \end{aligned}$ | $\begin{aligned} & \text { TPH-d } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { TPH-g } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\underset{(\mu \mathrm{g} / \mathrm{L})}{\mathrm{B}}$ | $\begin{gathered} \top \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | $\underset{(\mu \mathrm{g} / \mathrm{L})}{\mathrm{E}}$ | $\begin{gathered} x \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\begin{aligned} & \text { MTBE } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { DIPE } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { ETBE } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | TAME ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{gathered} \text { TBA } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | Methanol ( $\mu \mathrm{g} / \mathrm{L}$ ) | Ethanol ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{gathered} D C A \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} \text { EDB } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MW-8 | 2/22/2006 | 21.03 | 7.28 | 13.75 | 6,800 | <10,000 | 1,200 | <100 | 270 | 220 | 400,000 | <100 | <100 | 2,100 | 63,000 | <300,000 | <1,000 | <100 | <100 |
| IS-1 | 2/22/2006 | 20.57 | 6.91 | 13.66 | 4,400 | < 5,000 | 160 | $<50$ | <50 | <50 | 21,000 | <50 | <50 | 64 | 130,000 | < 5,000 | <500 | <50 | <50 |
| IS-2 | 2/22/2006 | 20.87 | 6.92 | 13.95 | <4,000 | 8,600 | 1,200 | <9.0 | 240 | 17 | 190,000 | $<9.0$ | 9.4 | 1,700 | 29,000 | <150,000 | <90 | <9.0 | <9.0 |
| 1S.3 | 2/22/2006 | 20.99 | 7.32 | 13.67 | <4,000 | 29,000 | 2,700 | 820 | 1,100 | 2,900 | 750,000 | <100 | $<100$ | 3,400 | 40,000 | <80,000 | <1,000 | <100 | <100 |
| IS-4 | 2/22/2006 | 20.79 | 6.95 | 13.84 | 3,100 | 11,000 | 790 | <100 | 120 | <100 | 280,000 | <100 | <100 | 2,400 | 51,000 | <10,000 | <1,000 | <100 | <100 |
| IS-5 | 2/22/2006 | 21.02 | 7.17 | 13.85 | 35,000 | 66,000 | 4,100 | $<250$ | 3,100 | 7,700 | 420,000 | <250 | <250 | 4,600 | 40,000 | <25,000 | <2,500 | <250 | <250 |
| 1S-6 | 2/22/2006 | 20.56 | 6.89 | 13.67 | 3,000 | 11,000 | 1,000 | <100 | 560 | 180 | 130,000 | <100 | <100 | 1,400 | 210,000 | <15,000 | <1,000 | <100 | <100 |
| EW-1 | 2/22/2006 | 21.74 | 8.06 | 13.68 | 3,200 | <150,000 | 3,100 | <1,500 | <1,500 | <1,500 | 700,000 | <1,500 | <1,500 | 5,100 | 59,000 | <150,000 | <15,000 | <1,500 | <1,500 |
| EW-2 | 2/22/2006 | 20.46 | 7.31 | 13.15 | <3,000 | 10,000 | 1,800 | <100 | 700 | 670 | 120,000 | <100 | <100 | 1,200 | 36,000 | <80,000 | <1,000 | <100 | <100 |

## NOTES:

TOC Top of well casing referenced to arbitrary datum prior to 3Q2005
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 82608
BTEX Benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260 B
MTBE Methyl tertiary butyl ether by EPA Method 8260B
DIPE Di-isopropyl ether by EPA Method 8260B
ETBE Ethyl tertary butyl ether by EPA Method 8260B
TAME Tertiary amyl methyl ether by EPA Method 8260B
TBA Tertiary butyl alcohol by EPA Method 8260 B

## TABLE 2

GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Eagle Gas Station
4301 San Leandro Street
Oakland, California

| Sample ID | Sample Date | TOC <br> (feet) | DTW <br> (feet) | GWE <br> (feet) | TPH-d <br> $(\mu \mathrm{g} / \mathrm{L})$ | $\begin{aligned} & \text { TPH-g } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{gathered} \mathrm{B} \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} \mathrm{T} \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | $\underset{(\mu \mathrm{g} / \mathrm{L})}{\mathrm{E}}$ | $\begin{gathered} X \\ (\mu \mathrm{~g} / \mathrm{L}) \end{gathered}$ | MTBE ( $\mu \mathrm{g} / \mathrm{L}$ ) | $\begin{gathered} \text { DIPE } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | ETBE <br> ( $\mu \mathrm{g} / \mathrm{L}$ ) | TAME $(\mu \mathrm{g} / \mathrm{L})$ | $\begin{gathered} \text { TBA } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | Methanol ( $\mu \mathrm{g} / \mathrm{L}$ ) | Ethanol $(\mu \mathrm{g} / \mathrm{L})$ | $\begin{gathered} \text { DCA } \\ (\mu \mathrm{g} / \mathrm{L}) \end{gathered}$ | $\begin{gathered} E D B \\ (\mu \mathrm{~g} / L) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DCA | 1,2-Dichloro | ane |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EDB | 1,2-Dibromo | ane |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( $\mu \mathrm{g} / \mathrm{L}$ ) | Micrograms | er liter |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <\# | Not detecte | conc | ration | bove l | ratory | orting li |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | no samples | lected | no data | available |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| * | Laboratory | :"Res | s with | quantit | n rang | hromat | aphic $p$ | tern not | typic | of fuel" |  |  |  |  |  |  |  |  |  |
| ** | wells re-sur | yed on | /28/200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Table 3

## WATER QUALITY DATA

## NAZ Eagle Gas Station

4301 San Leandro Street
Oakland, CA 94601

| Well ID | Date | Depth to Bottom (feet) | Depth to Water (feet) | Dissolved <br> Oxygen (DO) <br> (mg/L) | Oxidation- <br> Reduction <br> Potential (ORP) $(\mathrm{mV})$ | Total Iron (mg/L) | $\begin{gathered} \text { Measured } \\ \text { Ferrous } \\ \text { Iron }(\mathrm{mg} / \mathrm{L}) \end{gathered}$ | Calculated Ferric Iron (mg/L) | pH | Temperature (F) | Conductivity ( $\mathrm{mS} / \mathrm{cm}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| IS-1 | 2/21/2006 ${ }^{(1)}$ | 24.91 | 6.91 | 3.06 | 228.10 | 3.30 | 3.30 | 0.0 | 6.92 | 63.68 | 1,090 |
| IS-2 | 2/21/2006 ${ }^{(1)}$ | 24.97 | 6.92 | 3.84 | 220.60 | 3.30 | 3.30 | 0.0 | 7.02 | 64.93 | 956 |
| IS-3 | 2/21/2006 ${ }^{(1)}$ | 24.61 | 7.32 | 4.07 | 151.10 | 3.30 | 2.56 | 0.7 | 6.90 | 62.30 | 965 |
| IS-4 | $2 / 21 / 2006^{(1)}$ | 24.96 | 6.95 | 3.73 | 184.10 | 3.30 | 2.81 | 0.5 | 6.95 | 64.20 | 1,052 |
| IS-5 | 2/21/2006 ${ }^{\text {(1) }}$ | 18.15 | 7.17 | 0.64 | 207.10 | NA | NA | NA | 6.77 | 63.56 | 1,031 |
| IS-6 | 2/21/2006 ${ }^{(1)}$ | 25.16 | 6.89 | 4.05 | 198.70 | 3.30 | 2.46 | 0.8 | 6.94 | 64.00 | 1,092 |
| MW-1 | 2/21/2006 ${ }^{(1)}$ | 24.53 | 9.58 | 3.44 | 203.20 | 3.30 | 2.65 | 0.7 | 6.94 | 63.59 | 1,011 |
| MW-2 | 2/21/2006 ${ }^{(1)}$ | 24.77 | 12.69 | 3.29 | 205.90 | 3.30 | 3.01 | 0.3 | 6.74 | 62.44 | 1,038 |
| MW-3 | 2/21/2006 ${ }^{(1)}$ | 23.08 | 10.31 | 3.55 | 209.60 | 1.08 | 0.95 | 0.1 | 6.89 | 66.20 | 870 |
| MW-4 | 2/21/2006 ${ }^{(1)}$ | 24.78 | 7.87 | 3.13 | 228.80 | 3.30 | 3.30 | 0.0 | 6.83 | 62.09 | 1,051 |
| MW-4D | 2/21/2006 ${ }^{(1)}$ | 42.37 | 15.58 | 5.94 | 187.40 | 0.11 | 0.00 | 0.1 | 7.08 | 64.43 | 830 |
| MW-5 | 2/21/2006 ${ }^{(1)}$ | 25.08 | 6.63 | 3.90 | 241.50 | 3.13 | 2.28 | 0.9 | 6.84 | 63.34 | 978 |
| MW-5D | 2/21/2006 ${ }^{(1)}$ | 41.65 | 13.68 | 4.23 | 222.00 | 0.09 | 0.00 | 0.1 | 7.21 | 65.95 | 810 |
| MW-6 | $2 / 21 / 2006^{(1)}$ | 24.91 | 9.88 | 3.37 | 206.20 | 0.82 | 0.09 | 0.7 | 7.16 | 64.37 | 1,268 |
| MW-7 | 2/21/2006 ${ }^{(1)}$ | 25.53 | 11.72 | 3.96 | 207.00 | 0.54 | 0.46 | 0.1 | 7.12 | 65.21 | 1,680 |
| MW-8 | 2/21/2006 ${ }^{(1)}$ | 24.59 | 7.28 | 3.40 | 214.50 | 3.30 | 3.12 | 0.2 | 6.85 | 63.40 | 1,205 |
| EW-1 | 2/21/2006 ${ }^{\text {(1) }}$ | 25.11 | 8.06 | 3.55 | 213.60 | 3.17 | 2.29 | 0.9 | 6.89 | - 62.73 | 1,179 |
| EW-2 | 2/21/2006 ${ }^{(1)}$ | 25.21 | 7.31 | 3.74 | 221.90 | 3.30 | 3.30 | 0.0 | 6.75 | 61.92 | 889 |
| Average | 2/21/2006 ${ }^{(1)}$ | -- | -- | 3.61 | 208.41 | 2.47 | 2.11 | 0.36 | 6.93 | 63.80 | 1055.3 |

NOTE:
(1) $2 / 21 / 2006$ sampling data represent the baseline prior to the operation of i-SOC diffusers

## ATTACHMENT 1

## WELL GAUGING DATA/ <br> PURGE CALCULATIONS, PURGING DATA



Tech: Eric. Aust: Rockne, Berry


COMMENTS: color, turbidity, recharge, sheen, odor
Brown, Moderate Poor, 'so sheen on No odor POST DEPTH TO WATER: $\quad$ SAMPLE TIME: $\qquad$ WELL\# TIME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
$\qquad$ TAn, (our, Poor, A/2 14 cinder (NO) WELL\# TIME VOL. (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, ord POST DEPTH TO WATER:_ SA 2 $\quad$ SAMPLE TIME: 1500

PURGE DATA SHEET
Sheet 2 of 6
 Tech: Eric Teston Rodney lon
WELL\# TIME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
$\qquad$
WELL\# TTME VOL. (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor

$\qquad$


COMMENTS: color, turbidity, recharge, sheen, odor
$\qquad$
Jan, Diedcrite, peer recharge, slight sheen Hos Odor POST DEPTH TO WATER: $\qquad$ SAMPLE TIME: $\qquad$

PURGE DATA SHEET
Sheet 3 of 6
 Rodney Bor.
WELL\# TIME VOL. (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
A tn, incerate, fere recharge, Has sheen and odor
post depth to water: $\frac{11.35}{} \quad$ sAmple time: 10.30



COMMENTS: color, turbidity, recharge, sheen, odor
 POST DEPTH TO WATER: 10.95 SAMPLE TIME: $\qquad$ WELL\# TMME VOL. (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \quad \mathrm{Fe}_{\mathrm{T}}$


PURGE DATA SHEET
4
Sheet 4 of 6
Job No: 2 MoYle Location: 4301 Son lealou Callow Date: $2 / 22 / 06 \quad$ Tech: Eric
WELL\#


COMMENTS: color, turbidity, recharge, sheen, odor

| IAn, Low Turbid, in, four recharge, slightsheen and the odor |
| :--- |
| POST DEPTH TO WATER: |

$\qquad$
$\qquad$ WELL\# TTME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\boldsymbol{\tau}}$


COMMENTS: color, turbidity, recharge, sheen, odor
Gnu, Low, Prod redingote, slit sheen, and Odder POST DEPTH TO WATER: $\qquad$ SAMPLE TIME: $\qquad$ WELL\# TMME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{r}}$


COMMENTS: color, turbidity, recharge, sheen, odor


PURGE DATA SHEET

Job No: 2Po46H Location: 4301 Sntandro Paling Date: 2/22/06
WELL\# TIME VOL (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{r}}$


COMMENTS: color, turbidity, recharge, sheen, odor
Fan, High, Poor recharge, Hrs sheen and oder POST DEPTH TO WATER: $\qquad$ SAMPLE TIME: $\qquad$ WELL \# TTME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
Gray, Moderate, Poor cechwien, Hos sheen and Odor POST DEPTH TO WATER: DVY Ow t SAMPLE TIME: 13.0 S

WELL\# TIME VOL. (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \quad \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
GRAy, low, flor, Hos sheen and Pillow POST DEPTH TO WATER: $\qquad$ SAMPLE TIME: $\qquad$ $13: 25$

PURGE DATA SHEET
sheet 6 of 6
Job No.: ZPOYtf Location: 430t Sonteandor Dalitad
Date: 2-22-06
$\frac{\text { Tech: Eric }}{\text { Rodney }}$
WELL\# TMME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
$\qquad$ POST DEPTH TO WATER: SAMPLE TIME: WELL\# TMME VOL. (gal.) ORP CND TMP DO $\mathrm{pH} \quad \mathrm{Fe}^{2+} \quad \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
Gray, Low, Poor, Hhs ashen a ODor POST DEPTH TO WATER: 11.51 SAMPLE TIME:_ $14.45^{1}$

WELL\# TTME VOL. (gal.) ORP CND TMP DO pH $\mathrm{Fe}^{2+} \mathrm{Fe}_{\mathrm{T}}$


COMMENTS: color, turbidity, recharge, sheen, odor
King, lon, Peer, the sheen \& Odor POST DEPTH TO WATER: $\qquad$ 14.58 $\qquad$ $15: 30$

## ATTACHMENT 2

## GROUNDWATER MONITORING AND

## SAMPLING FIELD PROCEDURES

## 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 ${ }^{\circledR}$ 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 gauging, purging, and sampling a well, caps for all on-site wells should be opened to allow atmospheric pressure to equalize if local groundwater is under confined or semi-confined conditions. 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. Floating separate-phase hydrocarbons (SPH) where suspected or observed, will be 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 of well integrity, water level 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 purging volume intervals of one casing volume. Purging continues until three well casing volumes have been removed or until the well completely dewaters. Wells that dewater or demonstrate a slow recharge rate 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. Investigation derived wastes (purge and rinseate water) is handled in one of three ways: 1) Purge and rinseate 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. 2) Purge and rinseate water is collected into a 250 -gallon portable holding tank and transported to the Clearwater equipment yard in Point Richmond, CA. At the yard the investigation derived waste is then transferred to 55 -gallon drums pending disposal at an appropriate disposal facility, or 3) Purge and rinseate water is collected in a 250 -gallon portable holding tank and transported to the appropriate disposal facility. The applicable method will be indicated in the field $\log$ sheets and the corresponding technical report.

## Groundwater Sample Collection

Groundwater samples are collected immediately after purging, with the following exception: If the purging rate exceeds well recharge rate, samples are collected 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 for sampling has accumulated. The well is sampled within 24 hours of purging or is re-purged. 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 laboratorysupplied containers, labeled, documented on a chain of custody form and placed on ice in a chilled 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 is 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 standard groundwater samples are collected; They are analyzed for the same compounds in order to verify the reproducibility of laboratory data. They are usually collected from only 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 verify field handling and transportation procedures. Duplicates verify laboratory procedures. The configuration of QC samples is determined by Clearwater depending on site conditions and regulatory requirements.

## ATTACHMENT 3

## LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORM

Report Number: 48556
Date: 03/03/2006

Jim Ho
Clearwater Group, Inc.
229 Tewksbury Avenue
Point Richmond, CA 94801

Subject : 18 Water Samples
Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Dear Mr. Ho,

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,


Subject: $\quad 18$ Water Samples
Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

## Case Narrative

The Method Reporting Limit for TPH as Diesel is increased due to interference from Gasoline-Range Hydrocarbons for samples MW-5, ISOC-2, ISOC-3, EW-2, MW-3, MW-2 and MW-4.

The Method Reporting Limit for Methanol has been increased due to the presence of an interfering compound for samples ISOC-2, ISOC-3, ISOC-6, MW-8 and EW-2.

Matrix Spike/Matrix Spike Duplicate Results associated with samples MW-3, MW-2, MW-4 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.


Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample : MW-1
Sample Date :02/22/2006

| Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 5800 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Diisopropyl ether (DIPE) | < 50 | 50 | $u g / L$ | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 120000 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 5000 | 5000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | $<500$ | 500 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | $<50$ | 50 | $u g / L$ | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | < 5000 | 5000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 99.2 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 94.8 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 2600 | 50 | ug/L | M EPA 8015 | 03/01/2006 |
| Octacosane (Diesel Surrogate) | 84.2 |  | \% Recovery | M EPA 8015 | 03/01/2006 |

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: MW-2
Sample Date :02/22/2006

| Sample Date :02/22/2006 Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 800 | 700 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 700 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Ethylbenzene | $<700$ | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Total Xylenes | < 700 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Methyl-t-butyl ether (MTBE) | 400000 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 700 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Ethyl-t-butyl ether (ETBE) | < 700 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-amyl methyl ether (TAME) | 1700 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-Butanol | 130000 | 4000 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 70000 | 70000 | $u g / L$ | EPA 8260B | 03/01/2006 |
| Ethanol | < 7000 | 7000 | ug/L | EPA 8260B | 03/01/2006 |
| 1,2-Dichloroethane | $<700$ | 700 | ug/L | EPA 8260B | 03/01/2006 |
| 1,2-Dibromoethane | $<700$ | 700 | ug/L | EPA 8260B | 03/01/2006 |
| TPH as Gasoline | < 70000 | 70000 | ug/L | EPA 8260B | 03/01/2006 |
| Toluene - d8 (Surr) | 98.2 |  | \% Recovery | EPA 8260B | 03/01/2006 |
| 4-Bromofluorobenzene (Surr) | 94.6 |  | \% Recovery | EPA 8260B | 03/01/2006 |
| TPH as Diesel | $<1500$ | 1500 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 104 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number : 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: MW-3
Sample Date :02/22/2006

| Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date <br> Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 88 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 57000 | 90 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 420 | 50 | ug/L | EPA 8260 B | 02/28/2006 |
| Tert-Butanol | 65000 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | <9000 | 9000 | ug/L | EPA 8260B | 03/01/2006 |
| Ethanol | $<500$ | 500 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | < 5000 | 5000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 102 |  | \% Recovery | EPA 8260 B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 103 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | < 600 | 600 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 106 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Project Name : NAZ EAGLE GAS STATION
Project Number : ZP046E

| Sample : MW-4 |  | Matrix : | Vater | Lab Num | 56-18 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Date :02/22/2006 |  |  |  |  |  |
| Parameter | Measuréd Value | Reporting Limit | Units | Analysis Method | Date Analyzed |
| Benzene | 3200 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Toluene | 2000 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Ethylbenzene | 1600 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Total Xylenes | 3800 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Methyl-t-butyl ether (MTBE) | 770000 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Ethyl-t-butyl ether (ETBE) | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-amyl methyl ether (TAME) | 3300 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-Butanol | 59000 | 7000 | ug/L | EPA 8260 B | 03/01/2006 |
| Methanol | < 150000 | 150000 | ug/L | EPA 8260B | 03/01/2006 |
| Ethanol | < 15000 | 15000 | ug/L | EPA 8260B | 03/01/2006 |
| 1,2-Dichloroethane | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| 1,2-Dibromoethane | <1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| TPH as Gasoline | $<150000$ | 150000 | ug/L | EPA 8260B | 03/01/2006 |
| Toluene - d8 (Surr) | 98.9 |  | \% Recovery | EPA 8260B | 03/01/2006 |
| 4-Bromofluorobenzene (Surr) | 95.1 |  | \% Recovery | EPA 8260B | 03/01/2006 |
| TPH as Diesel | $<8000$ | 8000 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 95.6 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

## Project Name: NAZ EAGLE GAS STATION

Project Number : ZP046E

## Sample: MW-4D

Sample Date :02/21/2006

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date <br> Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | < 0.90 | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | $<0.90$ | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | $<0.90$ | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | $<0.90$ | 0.90 | ug/L | EPA 8260 B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 440 | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Diisopropyl ether (DIPE) | < 0.90 | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 0.90 | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 1.8 | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | $<90$ | 90 | ug/L | EPA 8260 B | 02/28/2006 |
| Ethanol | < 9.0 | 9.0 | $u g / L$ | EPA 8260 B | 02/28/2006 |
| 1,2-Dichloroethane | $<0.90$ | 0.90 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 0.90 | 0.90 | $u g / L$ | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | $<90$ | 90 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 102 |  | \% Recovery | EPA 8260 B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 97.4 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | $<50$ | 50 | $u g / L$ | M EPA 8015 | 02/27/2006 |
| Octacosane (Diesel Surrogate) | 106 |  | \% Recovery | M EPA 8015 | 02/27/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

## Project Name: NAZ EAGLE GAS STATION

Project Number : ZP046E

Sample: MW-5
Sample Date :02/21/2006

| Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 460 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 170 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 480000 | 900 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | $<100$ | 100 | $\mathrm{ug} / \mathrm{L}$ | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 3000 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 95000 | 500 | $u g / L$ | EPA 8260B | 02/28/2006 |
| Methanol | < 90000 | 90000 | $u \mathrm{~g} / \mathrm{L}$ | EPA 8260B | 03/01/2006 |
| Ethanol | < 1000 | 1000 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<100$ | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | $<100$ | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | < 10000 | 10000 | $u g / L$ | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 101 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 102 |  | \% Recovery | EPA $8260 B$ | 02/28/2006 |
| TPH as Diesel | $<3000$ | 3000 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 95.8 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

## Project Name: NAZ EAGLE GAS STATION

Project Number : ZP046E

Sample: MW-5D
Sample Date :02/21/2006

| Sample Date :02/21/2006 Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date <br> Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Toluene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Ethylbenzene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Methyl-t-butyl ether (MTBE) | 8.1 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Diisopropyl ether (DIPE) | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Ethyl-t-butyl ether (ETBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Tert-amyl methyl ether (TAME) | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Tert-Butanol | 5.5 | 5.0 | ug/L | EPA 8260 B | 02/27/2006 |
| Methanol | < 50 | 50 | ug/L | EPA 8260B | 02/27/2006 |
| Ethanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 02/27/2006 |
| 1,2-Dichloroethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| 1,2-Dibromoethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 02/27/2006 |
| Toluene - d8 (Surr) | 101 |  | \% Recovery | EPA 8260B | 02/27/2006 |
| 4-Bromofluorobenzene (Surr) | 105 |  | \% Recovery | EPA 8260B | 02/27/2006 |
| TPH as Diesel | $<50$ | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 94.4 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

| Sample : MW-6 |  | Matrix : Water |  | Lab Number: 48556-04 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Sample Date :02/22/2006 |  |  |  |  |



Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: MW-7
Sample Date :02/22/2006

| Sample Date :02/22/2006 Parameter | Measurèd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 88000 | 150 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 430 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 90000 | 500 | $u g / L$ | EPA 8260B | 02/28/2006 |
| Methanol | < 10000 | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | < 1000 | 1000 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | < 10000 | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 102 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 98.8 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 400 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 105 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

| Sample: MW-8 |  | Matrix : Water |  | Lab Number : 48556-12 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Date :02/22/2006 Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| Benzene | 1200 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 270 | 100 | ug/L | EPA 8260 B | 02/28/2006 |
| Total Xylenes | 220 | 100 | ug/L. | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 400000 | 900 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 2100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 63000 | 500 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | $<300000$ | 300000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | $<1000$ | 1000 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<100$ | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | $<10000$ | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 100 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 103 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 6800 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 88.8 |  | \% Recovery | M EPA 8015 | 02/28/2006 |



Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: ISOC-1
Sample Date :02/22/2006

| Sample Date :02/22/2006 Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 160 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 21000 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Diisopropyl ether (DIPE) | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 64 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 130000 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 5000 | 5000 | ug/L | EPA 8260 B | 02/28/2006 |
| Ethanol | $<500$ | 500 | ug/L | EPA 8260 B | 02/28/2006 |
| 1,2-Dichloroethane | $<50$ | 50 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 50 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | < 5000 | 5000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 98.5 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 95.9 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 4400 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 91.2 |  | \% Recovery | M EPA 8015 | 02/28/2006 |



Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: ISOC-2
Sample Date :02/22/2006

| Sample Date:02/22/2006 Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 1200 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 9.0 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 240 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | 17 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 190000 | 250 | ug/L | EPA $8260 B$ | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 9.0 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | 9.4 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 1700 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 29000 | 50 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 150000 | 150000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | < 90 | 90 | ug/L | EPA 8260 B | 02/28/2006 |
| 1,2-Dichloroethane | < 9.0 | 9.0 | $u g / L$ | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 9.0 | 9.0 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | 8600 | 900 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 100 |  | \% Recovery | EPA 8260 B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 103 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | $<4000$ | 4000 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 92.8 |  | \% Recovery | M EPA 8015 | 02/28/2006 |



Report Number : 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample : ISOC-3
Sample Date :02/22/2006

| Sample Date :02/22/2006 Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 2700 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | 820 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 1100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | 2900 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 750000 | 2500 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | $<100$ | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 3400 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 40000 | 500 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 80000 | 80000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | < 1000 | 1000 | $u g / L$ | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | 29000 | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 98.4 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 97.2 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | < 4000 | 4000 | $u g / L$ | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 105 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: ISOC-4
Sample Date :02/22/2006

| Parameter | Measuréd Value | Method <br> Reporting <br> Limit | Units | Analysis Method | Date <br> Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 790 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 120 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 280000 | 400 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 2400 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 51000 | 500 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 10000 | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | < 1000 | 1000 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | 11000 | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 103 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 98.3 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 3100 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 99.8 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: ISOC-5
Sample Date :02/22/2006

| Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 4100 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 250 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 3100 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | 7700 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 420000 | 700 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 250 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | $<250$ | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 4600 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 40000 | 1500 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | < 25000 | 25000 | ug/L | EPA 8260 B | 02/28/2006 |
| Ethanol | < 2500 | 2500 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<250$ | 250 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | <250 | 250 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | 66000 | 25000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 102 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 99.8 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 35000 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 99.2 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number : ZP046E

Sample: ISOC-6
Sample Date :02/22/2006

| Sample Date :02/22/2006 Parameter | Measurèd Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 1000 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 560 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | 180 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 130000 | 250 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 1400 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 210000 | 500 | ug/L | EPA 8260B | 02/28/2006 |
| Methanol | $<15000$ | 15000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | < 1000 | 1000 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<100$ | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | 11000 | 10000 | $u g / L$ | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 99.1 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 96.3 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | 3000 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 79.8 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

## Project Name: NAZ EAGLE GAS STATION

Project Number: ZP046E

Sample: EW-1
Sample Date :02/22/2006

| Parameter | Measuréd Value | Method Reporting Limit | Units | Analysis Method | Date <br> Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 3100 | 1500 | ug/L | EPA 8260 B | 03/01/2006 |
| Toluene | < 1500 | 1500 | ug/L | EPA 8260 B | 03/01/2006 |
| Ethylbenzene | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Total Xylenes | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Methyl-t-butyl ether (MTBE) | 700000 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Ethyl-t-butyl ether (ETBE) | < 1500 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-amyl methyl ether (TAME) | 5100 | 1500 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-Butanol | 59000 | 7000 | ug/L | EPA 8260 B | 03/01/2006 |
| Methanol | < 150000 | 150000 | ug/L | EPA 8260B | 03/01/2006 |
| Ethanol | < 15000 | 15000 | ug/L | EPA 8260B | 03/01/2006 |
| 1,2-Dichloroethane | < 1500 | 1500 | $u g / L$ | EPA 8260B | 03/01/2006 |
| 1,2-Dibromoethane | < 1500 | 1500 | $u g / L$ | EPA 8260B | 03/01/2006 |
| TPH as Gasoline | < 150000 | 150000 | ug/L | EPA 8260B | 03/01/2006 |
| Toluene - d8 (Surr) | 101 |  | \% Recovery | EPA 8260B | 03/01/2006 |
| 4-Bromofluorobenzene (Surr) | 104 |  | \% Recovery | EPA 8260B | 03/01/2006 |
| TPH as Diesel | 3200 | 50 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 95.4 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

Approved By:


Report Number: 48556
Date: 03/03/2006

Project Name: NAZ EAGLE GAS STATION
Project Number: ZP046E

Sample: EW-2
Sample Date:02/22/2006

| Sample Date :02/22/2006 Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 1800 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethylbenzene | 700 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Total Xylenes | 670 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Methyl-t-butyl ether (MTBE) | 120000 | 250 | ug/L | EPA 8260B | 03/01/2006 |
| Diisopropyl ether (DIPE) | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Ethyl-t-butyl ether (ETBE) | < 100 | 100 | ug/L | EPA 8260 B | 02/28/2006 |
| Tert-amyl methyl ether (TAME) | 1200 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| Tert-Butanol | 36000 | 500 | ug/L. | EPA 8260B | 02/28/2006 |
| Methanol | < 80000 | 80000 | ug/L | EPA 8260B | 02/28/2006 |
| Ethanol | < 1000 | 1000 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dichloroethane | $<100$ | 100 | ug/L | EPA 8260B | 02/28/2006 |
| 1,2-Dibromoethane | < 100 | 100 | ug/L | EPA 8260B | 02/28/2006 |
| TPH as Gasoline | 10000 | 10000 | ug/L | EPA 8260B | 02/28/2006 |
| Toluene - d8 (Surr) | 100 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| 4-Bromofluorobenzene (Surr) | 100 |  | \% Recovery | EPA 8260B | 02/28/2006 |
| TPH as Diesel | < 3000 | 3000 | ug/L | M EPA 8015 | 02/28/2006 |
| Octacosane (Diesel Surrogate) | 90.6 |  | \% Recovery | M EPA 8015 | 02/28/2006 |

## QC Report : Method Blank Data

Project Name : NAZ EAGLE GAS STATION

## Project Number: ZP046E

| Parameter | Measured Value | Method <br> Reporting <br> Limit | Units | Analysis Method | Date <br> Analyzed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TPH as Diesel | $<50$ | 50 | ug/L | M EPA 8015 | 02/27/2006 |
| Octacosane (Diesel Surrogate) | 83.2 |  | \% | M EPA 8015 | 02/27/2006 |
| Benzene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 03/01/2006 |
| Toluene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 03/01/2006 |
| Ethylbenzene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 03/01/2006 |
| Total Xylenes | $<0.50$ | 0.50 | ug/L | EPA 8260B | 03/01/2006 |
| Ethyl-t-butyl ether (ETBE) | $<0.50$ | 0.50 | ug/L | EPA 8260B | 03/01/2006 |
| Tert-amyl methyl ether (TAME) | $<0.50$ | 0.50 | ugh | EPA 8260B | 03/01/2006 |
| Tert-Butanol | $<5.0$ | 5.0 | ug/L | EPA 8260B | 03/01/2006 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 03/01/2006 |
| 4-Bromofluorobenzene (Surr) | 105 |  | \% | EPA 8260 B | 03/01/2006 |
| Benzene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Toluene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Ethylbenzene | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Methyl-t-butyl ether (MTBE) | $<0.50$ | 0.50 | ug/L | EPA 8260 B | 02/27/2006 |
| Diisopropyl ether (DIPE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Ethyl-t-butyl ether (ETBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Tert-amyl methyl ether (TAME) | $<0.50$ | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| Tert-Butanol | $<5.0$ | 5.0 | ug/L | EPA 8260B | 02/27/2006 |
| Methanol | $<50$ | 50 | ug/L | EPA 8260B | 02/27/2006 |
| Ethanol | $<5.0$ | 5.0 | ug/L | EPA 8260B | 02/27/2006 |
| 1,2-Dichloroethane | < 0.50 | 0.50 | ug/ | EPA 8260B | 02/27/2006 |
| 1,2-Dibromoethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/27/2006 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 02/27/2006 |
| Toluene - d8 (Surr) | 102 |  | \% | EPA 8260B | 02/27/2006 |
| 4-Bromofluorobenzene (Surr) | 103 |  | \% | EPA 8260B | 02/27/2006 |



## QC Report : Method Blank Data

Project Name : NAZ EAGLE GAS STATION
Project Number : ZP046E

|  |  | $\begin{array}{l}\text { Method } \\ \text { Reasured } \\ \text { Reporting } \\ \text { Vimit }\end{array}$ |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Value |  |  |  |  |  |$)$


|  | Measured <br> Value | Method <br> Reporting <br> Limit | Units | Analysis <br> Method | Date <br> Analyzed |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Parameter | $<50$ | 50 | ug/L | EPA 8260B | $03 / 01 / 2006$ |
| TPH as Gasoline | 95.4 |  | $\%$ | EPA 8260B | $03 / 01 / 2006$ |
| Toluene - d8 (Surr) | 92.0 |  | $\%$ | EPA 8260B | $03 / 01 / 2006$ |



Project Name: NAZ EAGLE GAS
Project Number: ZP046E

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike <br> Dup. <br> Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date <br> Analyzed |  | Duplicate <br> Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked <br> Sample <br> Percent <br> Recov. <br> Limit | Relative Percent Diff. Limit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TPH as Diesel | Blank | <50 | 1000 | 1000 | 1110 | 1180 | ug/L | M EPA 8015 | 2/27/06 | 111 | 118 | 6.24 | 70-130 | 25 |
| Benzene | 48633-06 | $<0.50$ | 40.0 | 40.0 | 42.0 | 42.0 | ug/L | EPA 8260 B | 3/1/06 | 105 | 105 | 0.0687 | 70-130 | 25 |
| Toluene | 48633-06 | <0.50 | 40.0 | 40.0 | 38.9 | 39.1 | ug/L | EPA 8260B | 3/1/06 | 97.3 | 97.8 | 0.429 | 70-130 | 25 |
| Tert-Butanol | 48633-06 | <5.0 | 200 | 200 | 194 | 194 | ug/L | EPA 8260B | 3/1/06 | 97.2 | 96.9 | 0.295 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48633-06 | <0.50 | 40.0 | 40.0 | 41.3 | 41.2 | ug/L | EPA 8260 B | 3/1/06 | 103 | 103 | 0.205 | 70-130 | 25 |
| Benzene | 48588-01 | $<0.50$ | 40.0 | 40.0 | 40.7 | 36.9 | ug/L | EPA 8260B | 2/27/06 | 102 | 92.2 | 9.78 | 70-130 | 25 |
| Toluene | 48588-01 | <0.50 | 40.0 | 40.0 | 40.1 | 36.5 | $u g / L$ | EPA 8260 B | 2/27/06 | 100 | 91.3 | 9.39 | 70-130 | 25 |
| Tert-Butanol | 48588-01 | 70 | 200 | 200 | 278 | 259 | ug/L | EPA 8260B | 2/27/06 | 104 | 94.8 | 9.49 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48588-01 | 6.2 | 40.0 | 40.0 | 47.4 | 43.2 | ug/L | EPA 8260B | 2/27/06 | 103 | 92.4 | 10.8 | 70-130 | 25 |
| Benzene | 48597-01 | 78 | 40.0 | 40.0 | 112 | 111 | ug/L | EPA 8260B | 2/27/06 | 84.9 | 83.1 | 2.11 | 70-130 | 25 |
| Toluene | 48597-01 | 4.6 | 40.0 | 40.0 | 44.7 | 44.4 | ug/L | EPA 8260B | 2/27/06 | 100 | 99.5 | 0.696 | 70-130 | 25 |
| Tert-Butanol | 48597-01 | 16 | 200 | 200 | 210 | 210 | ug/L | EPA 8260B | 2/27/06 | 96.9 | 96.8 | 0.142 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48597-01 | 550 | 40.0 | 40.0 | 575 | 573 | ug/L | EPA 8260B | 2/27/06 | 55.7 | 49.4 | 12.1 | 70-130 | 25 |
| Benzene | 48618-01 | <0.50 | 40.0 | 40.0 | 31.8 | 37.7 | ug/L | EPA 8260B | 2/28/06 | 79.6 | 94.2 | 16.7 | 70-130 | 25 |
| Toluene | 48618-01 | <0.50 | 40.0 | 40.0 | 32.2 | 38.0 | ug/L | EPA 8260B | 2/28/06 | 80.6 | 95.0 | 16.4 | 70-130 | 25 |
| Tert-Butanol | 48618-01 | <5.0 | 200 | 200 | 150 | 188 | ug/L | EPA 8260B | 2/28/06 | 74.9 | 94.3 | 22.9 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48618-01 | 8.7 | 40.0 | 40.0 | 39.9 | 48.5 | ug/L | EPA 8260B | 2/28/06 | 78.1 | 99.6 | 24.2 | 70-130 | 25 |

KIFF ANALYTICAL, LLC


## Project Name: NAZ EAGLE GAS

Project Number : ZP046E

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked <br> Sample <br> Value | Units | Analysis Method | Date <br> Analyzed | Spiked Sample <br> Percent <br> Recov | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked <br> Sample <br> Percent <br> Recov. <br> Limit | Relative Percent Diff. Limit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 48642-01 | <0.50 | 40.0 | 40.0 | 43.3 | 41.3 | ug/L | EPA 8260B | 3/1/06 | 108 | 103 | 4.75 | 70-130 | 25 |
| Toluene | 48642-01 | <0.50 | 40.0 | 40.0 | 44.2 | 42.0 | ug/L | EPA 8260B | 3/1/06 | 110 | 105 | 5.07 | 70-130 | 25 |
| Tert-Butanol | 48642-01 | <5.0 | 200 | 200 | 202 | 207 | ug/L | EPA 8260B | 3/1/06 | 101 | 104 | 2.30 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48642-01 | 47 | 40.0 | 40.0 | 82.8 | 81.4 | ug/L | EPA 8260B | 3/1/06 | 90.4 | 86.9 | 3.90 | 70-130 | 25 |
| Benzene | 48597-07 | <0.50 | 40.0 | 40.0 | 35.2 | 34.2 | ug/L | EPA 8260B | 2/27/06 | 88.0 | 85.5 | 2.86 | 70-130 | 25 |
| Toluene | 48597-07 | $<0.50$ | 40.0 | 40.0 | 33.8 | 32.8 | $u g / L$ | EPA 8260B | 2/27/06 | 84.6 | 82.1 | 3.02 | 70-130 | 25 |
| Tert-Butanol | 48597-07 | <5.0 | 200 | 200 | 179 | 181 | $u g / L$ | EPA 8260B | 2/27/06 | 89.6 | 90.7 | 1.15 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48597-07 | 17 | 40.0 | 40.0 | 52.0 | 52.7 | ug/L | EPA 8260B | 2/27/06 | 87.5 | 89.4 | 2.14 | 70-130 | 25 |
| Benzene | 48628-05 | 100 | 40.0 | 40.0 | 181 | 176 | $u g / L$ | EPA 8260B | 2/28/06 | 189 | 179 | 5.75 | 70-130 | 25 |
| Toluene | 48628-05 | 66 | 40.0 | 40.0 | 122 | 120 | $u g / L$ | EPA 8260B | 2/28/06 | 140 | 133 | 5.10 | 70-130 | 25 |
| Tert-Butanol | 48628-05 | <5.0 | 200 | 200 | 187 | 184 | ug/L | EPA 8260B | 2/28/06 | 93.5 | 92.1 | 1.50 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48628-05 | $<0.50$ | 40.0 | 40.0 | 38.4 | 39.2 | $u g / L$ | EPA 8260B | 2/28/06 | 96.0 | 98.0 | 2.02 | 70-130 | 25 |
| Benzene | 48633-05 | <0.50 | 40.0 | 40.0 | 38.2 | 36.7 | ug/L | EPA 8260B | 3/1/06 | 95.4 | 91.8 | 3.86 | 70-130 | 25 |
| Toluene | 48633-05 | $<0.50$ | 40.0 | 40.0 | 37.8 | 36.9 | ug/L | EPA 8260B | 3/1/06 | 94.5 | 92.3 | 2.33 | 70-130 | 25 |
| Tert-Butanol | 48633-05 | <5.0 | 200 | 200 | 187 | 185 | ug/L | EPA 8260B | 3/1/06 | 93.5 | 92.6 | 1.01 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 48633-05 | 220 | 40.0 | 40.0 | 245 | 239 | ug/L | EPA 8260B | 3/1/06 | 62.1 | 45.8 | 30.1 | 70-130 | 25 |

KIFF ANALYTICAL, LLC


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

Project Name: NAZ EAGLE GAS
Project Number: ZP046E

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS <br> Percent Recov. Limit |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Benzene | 40.0 | ug/L | EPA 8260B | 3/1/06 | 103 | 70-130 |  |
| Toluene | 40.0 | ug/L | EPA 8260B | 3/1/06 | 98.0 | 70-130 |  |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 3/1/06 | 98.3 | 70-130 |  |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 3/1/06 | 109 | 70-130 |  |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/27/06 | 95.4 | 70-130 |  |
| Toluene | 40.0 | ug/L | EPA 8260B | 2/27/06 | 98.0 | 70-130 |  |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 2/27/06 | 108 | 70-130 |  |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 2/27/06 | 101 | 70-130 |  |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/27/06 | 104 | 70-130 |  |
| Toluene | 40.0 | ug/L | EPA 8260B | 2/27/06 | 106 | 70-130 |  |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 2/27/06 | 97.2 | 70-130 |  |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 2/27/06 | 96.1 | 70-130 |  |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/28/06 | 104 | 70-130 |  |
| Toluene | 40.0 | ug/L | EPA 8260B | 2/28/06 | 107 | 70-130 |  |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 2/28/06 | 108 | 70-130 |  |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 2/28/06 | 88.0 | 70-130 |  |
| Benzene | 40.0 | ug/L | EPA 8260B | 3/1/06 | 111 | 70-130 |  |

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


Project Name: NAZ EAGLE GAS
Project Number : ZP046E

| Parameter | Spike Level | Units | Analysis Method | Date <br> Analyzed | LCS <br> Percent Recov. | LCS <br> Percent Recov. Limit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Toluene | 40.0 | ug/L | EPA 8260B | 3/1/06 | 112 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 3/1/06 | 99.0 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | $u g / L$ | EPA 8260B | 3/1/06 | 92.0 | 70-130 |
| Benzene | 40.0 | $u g / L$ | EPA 8260B | 2/27/06 | 91.6 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 2/27/06 | 93.1 | 70-130 |
| Tert-Butanol | 200 | $u g / L$ | EPA 8260B | 2/27/06 | 90.5 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 2/27/06 | 94.6 | 70-130 |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/28/06 | 94.5 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260 B | 2/28/06 | 91.5 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260 B | 2/28/06 | 90.2 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 2/28/06 | 95.2 | 70-130 |
| Benzene | 40.0 | ug/L | EPA 8260B | 3/1/06 | 94.0 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 3/1/06 | 93.5 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 3/1/06 | 90.7 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 3/1/06 | 95.0 | 70-130 |




Distribution: White-Lab; Pink - Originator Rev: 051805

