# FIRST QUARTER 2005
# GROUNDWATER MONITORING

## ABE Petroleum LLC
## 17715 Mission Boulevard
## Hayward, California 94539

**Prepared for**

**Mr. Paul Garg**
**ABE Petroleum LLC**

**Prepared by**

**Sierra Environmental, Inc.**

**March 30, 2005**
**Project 03-103.07**

**Sierra Environmental, Inc.**
*Environmental Consultants*



**March 30, 2005**
**Project 03-103.07**

**Mr. Paul Garg**
**ABE Petroleum LLC**
**33090 Mission Boulevard**
**Union City, California 94587**

**Subject: Report for First Quarter 2005 Groundwater Monitoring, ABE Petroleum LLC, 17715 Mission Boulevard, Hayward, California**

**Dear Mr. Garg:**

Sierra Environmental, Inc. (Sierra) is pleased to present this report summarizing the results for the first quarter 2005 groundwater monitoring at the subject location, hereafter, referred to as Site. Figure 1 shows the Site location. The groundwater monitoring was concurred by Alameda County Health Care Services (ACHCS) in a letter dated February 16, 2000, as result of gasoline impact to groundwater beneath the Site.

On March 16, 2005, Sierra obtained and recorded groundwater data, and collected groundwater samples from three groundwater monitoring wells (MW1 through MW3) at the Site for chemical analysis. Sierra submitted the samples to Entech Analytical Labs, Inc. (Entech) of Santa Clara, California for chemical analysis. Entech is an independent State-certified analytical laboratory (# 2346).

980 W. Taylor Street
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## BACKGROUND

On September 16, 1997, Balch Petroleum Contractors & Builders, Inc. (Balch) of Milpitas, California, removed one 2,000-gallon, two 6,000-gallon, one 10,000-gallon single-wall steel gasoline, and one 500-gallon single-wall steel waste oil USTs from the Site. Former UST locations are shown in Figure 2.

No hole or damage was observed in the tanks. No groundwater was encountered in the tank excavations. After UST removal, Sierra collected soil samples from the tank excavations for chemical analysis.

Up to 2,300 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHG) was detected in the soil samples collected from beneath the tanks at approximately 14 feet below ground surface (bgs). The soil sample locations are shown in Figure 2.

On August 14, 2000, Sierra drilled three exploratory soil borings and converted them to groundwater monitoring well MW1 through MW3. The wells are approximately 35 feet deep. Sierra collected soil and groundwater samples from the borings/wells for chemical analysis. The analytical results showed up to 720 ppm TPHG, 2.2 ppm benzene, and 3.4 ppm methyl tertiary butyl ether (MTBE) in the soil samples. Up to 290000 ppb TPHG, 10000 ppb benzene, and 4300 ppb MTBE were detected in the groundwater samples. Gasoline constituents were detected in groundwater samples collected from all three monitoring wells. Groundwater monitoring well locations are shown on Figure 3.

On March 30, 2001, Sierra performed first quarter 2001 groundwater monitoring at the Site. The field and analytical results are presented in Table I and II. Groundwater was measured at approximately 20 to 21 feet from top of the well casing (TOC) at the Site with a northwesterly flow direction.

On June 22, 2001, Sierra performed second quarter 2001 groundwater monitoring at the Site. Groundwater levels were measured at approximately 22 to 23 feet below TOC with a northwesterly flow direction during this monitoring event.

On September 20, 2001, Sierra performed third quarter 2001 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 24 to 25 feet below TOC with a northwesterly flow direction during this monitoring event.

On December 27, 2001, Sierra performed fourth quarter 2001 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 22.59 to 23.82 feet below TOC with a northwesterly flow direction during this monitoring event.

On September 24, 2002, Sierra performed third quarter 2002 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 23.69 to 24.89 feet below TOC with a northwesterly flow direction during this monitoring event.

On December 17, 2002, Sierra performed fourth quarter 2002 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 22.75 to 23.99 feet below TOC with a northwesterly flow direction during this monitoring event.

On April 2, 2003, Sierra performed first quarter 2003 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 21.25 to 22.32 feet below TOC with a westerly flow direction during this monitoring event.

On June 12, 2003, Sierra performed second quarter 2003 groundwater monitoring at the site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 20.64 to 20.94 feet below TOC with a westerly flow direction during this monitoring event.

Sierra prepared soil and Groundwater investigation plan and addendum to the plan dated May 27 and September 10, 2003 respectively for the site. The Addendum to the plan dated September 10, 2003 is being reviewed by ACHCS.

On September 29, 2003, Sierra performed third quarter 2003 groundwater monitoring at the site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 22.95 to 24.15 feet below TOC with a westerly flow direction during this monitoring event.

On December 4, 2003, Sierra performed fourth quarter 2003 groundwater monitoring at the site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 23.70 to 24.91 feet below TOC with a westerly flow direction during this monitoring event.

On March 9, 2004, Sierra performed first quarter 2004 groundwater monitoring at the Site. Sierra's field personnel measured the groundwater levels at MW1 through MW3 (Figure 3) using an electronic sounder. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 19.80 to 20.20 feet below TOC with a northwesterly flow direction during this monitoring event. Table I presents the groundwater measurement data.

On June 24, 2004, Sierra performed second quarter 2004 groundwater monitoring at the Site. Sierra's field personnel measured the groundwater levels at MW1 through MW3 (Figure 3) using an electronic sounder. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 21.44 to 22.95 feet below TOC with a northwesterly flow direction during this monitoring event. Table I presents the groundwater measurement data.

On September 9, 2004, Sierra performed third quarter 2004 groundwater monitoring at the Site. Sierra's field personnel measured the groundwater levels at MW1 through MW3 (Figure 3) using an electronic sounder. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 23.30' to 24.55' feet below TOC with a northwesterly flow direction during this monitoring event. Table I presents the groundwater measurement data.

On December 21, 2004, Sierra performed fourth quarter 2004 groundwater monitoring at the Site. Sierra's field personnel measured the groundwater levels at MW1 through MW3 (Figure 3) using an electronic sounder. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 22.92' to 24.21' feet below TOC with a northwesterly flow direction during this monitoring event. Table I presents the groundwater measurement data.

## GROUNDWATER MONITORING

On March 16, 2005, Sierra performed the first quarter 2005 groundwater monitoring at the Site. Sierra's field personnel measured the groundwater levels at MW1 through MW3 (Figure 3) using an electronic sounder. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 18.99' to 20.29' feet below TOC with a northwesterly flow direction during this monitoring event. Table I presents the groundwater measurement data.

Sierra's field personnel purged the wells using bailers. pH, temperature, and electrical conductivity of groundwater were recorded during the purging activities to affirm that groundwater in the wells have stabilized. After completion of the purging, groundwater samples MW-1 through MW-3 were collected from the wells. After collection, the groundwater from each well was transferred into clean volatile organic analysis (VOA) vials. The VOAs were sealed with Teflon-septum screw caps, labeled, placed on ice in a cooler, and delivered to Entech with chain-of-custody documentation.

All sampling and measurement equipment were washed with Liqui-Nox® (a phosphate free laboratory detergent), and rinsed with tap water at each measurement and sampling interval. Purged and wash water was stored in 55-gallon drums at a designated location at the Site. Sierra's quality assurance/quality control (QA/QC) protocol is presented in Appendix A.

## CHEMICAL ANALYSIS

The samples were analyzed for TPHG using the United States Environmental Protection Agency (EPA) method GC-MS. The samples were also analyzed for benzene, toluene, ethyl benzene, total xylenes (BTEX), and fuel oxygenates using EPA method 8260B. Copies of certified analytical results and chain-of-custody documentation are presented in Appendix B. Copies of the field notes are presented in Appendix C.

Sierra has submitted the analytical results to the State Water Board via Geotracker.

## ANALYTICAL RESULTS

Table II presents Summary of the analytical results.

## CONCLUSION AND RECOMMENDATIONS

The analytical results for the gasoline constituents obtained during this monitoring event show a generally decreasing trend in concentrations in comparison with the same hydrologic cycle in 2004.

Sierra recommends proceeding with the soil and groundwater investigation, and corrective action at the site as soon as possible. Sierra is awaiting a response from ACHCS regarding its addendum to work plan for soil and groundwater investigation at the site. Sierra also recommends continuing with quarterly groundwater monitoring at the site during 2005.

## LIMITATIONS

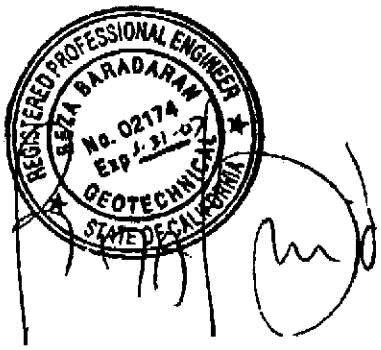
The content and conclusion provided by Sierra in this report are based on information collected during its assessment/monitoring, which include, but are not limited to field observations and analytical results for the groundwater samples collected at the Site.

Sierra assumes that the samples collected and laboratory results are reasonably representative of the whole Site, which may not be the case at unsampled areas.

This assessment/monitoring was performed in accordance with generally accepted principles and practices of environmental engineering and assessment in Northern California at the time of the work. This report presents our professional opinion based on our findings, technical knowledge, and experience working on similar projects. No warranty, either expressed or implied, is made. The conclusions presented are based on the analytical results and current regulatory requirements. We are not responsible for the impact of any changes in environmental standards or regulations in the future.

Please feel welcome to call us if you have questions.

**Very Truly Yours,**
**Sierra Environmental, Inc.**




**Reza Baradaran, PE, GE**
**Principal**

**Mitch Hajiaghai, REA II, CAC**
**Principal**

Attachments:

| | | |
|---|---|---|
| Table I | - | Groundwater Elevation Data |
| Table II | - | Analytical Results for Groundwater Samples |
| Figure 1 | - | Site Location Map |
| Figure 2 | - | Former UST and Soil Sample Locations |
| Figure 3 | - | Groundwater Monitoring Well Locations |
| Appendix A | - | QA/QC Protocol |
| Appendix B | - | Certified Analytical Results and Chain-of-Custody Documentation |
| Appendix C | - | Field Notes |

cc: Mr.Scott O. Seery, ACHCS (1 Copy)

R03-103.07\1stQ2005GWMH03302005

**TABLE I**
**GROUNDWATER ELEVATION DATA**

| Well ID | Measurement Date | Well Casing Diameter (in) | Well Casing Elevation (ft) | Depth to Water (ft) | Water Table Elevation (ft) |
|---|---|---|---|---|---|
| MW1 | 8-18-00 | 2 | 99.46 | 20.32 | 79.14 |
| | 3-30-01 | | | 20.30 | 79.16 |
| | 6-22-01 | | | 21.91 | 77.55 |
| | 9-20-01 | | | 23.56 | 75.90 |
| | 12-27-01 | | | 22.59 | 76.87 |
| | 9-24-02 | | | 23.69 | 75.77 |
| | 12-17-02 | | | 22.75 | 76.71 |
| | 4-2-03 | | | 21.15 | 78.31 |
| | 6-12-03 | | | 20.64 | 78.82 |
| | 9-29-03 | | | 22.95 | 76.51 |
| | 12-04-03 | | | 23.70 | 75.76 |
| | 03-09-04 | | | 19.80 | 79.66 |
| | 6-24-04 | | | 21.44 | 78.02 |
| | 9-09-04 | | | 23.30 | 76.16 |
| | 12-21-04 | | | 22.92 | 76.54 |
| | 3-16-05 | | | 18.99 | 80.47 |
| MW2 | 8-18-00 | 2 | 100.58 | 21.55 | 79.03 |
| | 3-30-01 | | | 21.55 | 79.03 |
| | 6-22-01 | | | 23.15 | 77.43 |
| | 9-20-01 | | | 24.78 | 75.80 |
| | 12-27-01 | | | 23.82 | 76.76 |
| | 9-24-02 | | | 24.89 | 75.69 |
| | 12-17-02 | | | 23.99 | 76.59 |
| | 4-2-03 | | | 22.32 | 78.26 |
| | 6-12-03 | | | 21.84 | 78.74 |
| | 9-29-03 | | | 24.15 | 76.43 |
| | 12-04-03 | | | 24.91 | 75.67 |
| | 03-09-04 | | | 21.05 | 79.53 |
| | 6-24-04 | | | 22.95 | 77.63 |
| | 9-09-04 | | | 24.55 | 76.03 |
| | 12-21-04 | | | 24.21 | 76.37 |
| | 3-16-05 | | | 20.29 | 80.29 |

**TABLE I**
**GROUNDWATER ELEVATION DATA**
**CONTINUED**

| Well ID | Measurement Date | Well Casing Diameter (in) | Well Casing Elevation (ft) | Depth to Water (ft) | Water Table Elevation (ft) |
|---|---|---|---|---|---|
| MW3 | 8-18-00 | 2 | 99.69 | 20.68 | 79.01 |
| | 3-30-01 | | | 20.68 | 79.01 |
| | 6-22-01 | | | 22.31 | 77.38 |
| | 9-20-01 | | | 23.92 | 75.77 |
| | 12-27-01 | | | 22.95 | 76.74 |
| | 9-24-02 | | | 24.03 | 75.66 |
| | 12-17-02 | | | 23.09 | 76.60 |
| | 4-2-03 | | | 21.46 | 78.23 |
| | 6-12-03 | | | 20.99 | 78.70 |
| | 9-29-03 | | | 23.30 | 76.39 |
| | 12-04-03 | | | 24.05 | 75.64 |
| | 03-09-04 | | | 20.20 | 79.49 |
| | 6-24-04 | | | 22.11 | 77.58 |
| | 9-09-04 | | | 20.20 | 79.49 |
| | 12-21-04 | | | 23.35 | 76.34 |
| | 3-16-05 | | | 19.43 | 80.26 |

1. Depths to groundwater were measured to the top of the well casings
2. Water table elevations were measured in relation to an assumed datum (100') relative elevation

## TABLE II
## ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

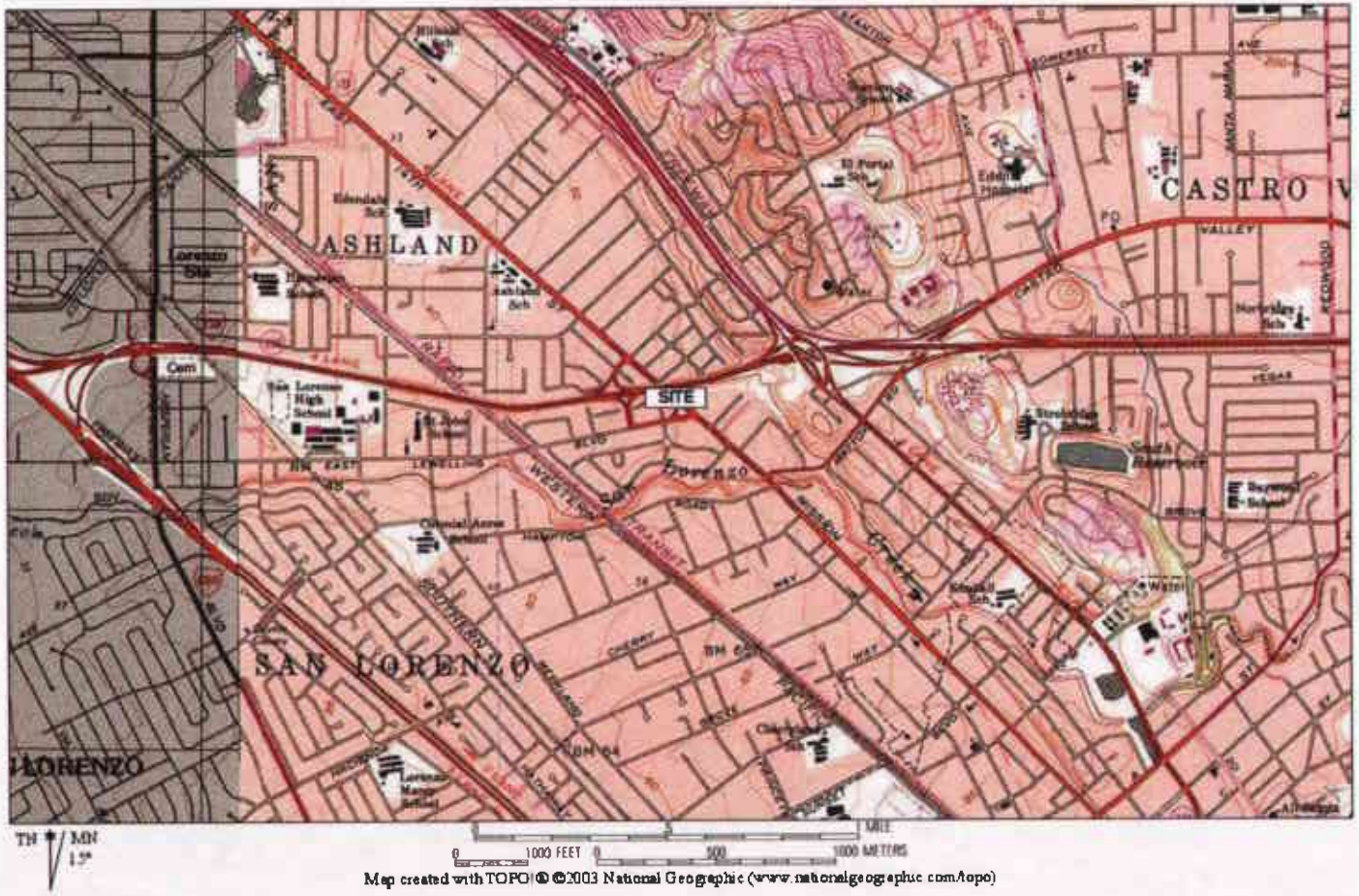
| Sample ID | Sample Date | Sample Location | TPHG µg/L | Benzene µg/L | Toluene µg/L | Ethylbenzene µg/L | Xylenes µg/L | MTBE µg/L |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 8-18-00 | MW1 | 280,000 | 10,000 | 16,000 | 11,000 | 49,000 | 4,000 |
| * | 3-30-01 | | 98,000 | 8,600 | 14,000 | 6,300 | 26,000 | 7,600 |
| * | 6-22-01 | | 110,000 | 7,500 | 12,000 | 5,700 | 24,000 | 3,800 |
| * | 9-20-01 | | 93,000 | 8,700 | 11,000 | 6,300 | 27,000 | 4,600 |
| * | 12-27-01 | | 140,000 | 7,700 | 11,000 | 6,500 | 28,000 | 7,700 |
| * | 9-24-02 | | 110,000 | 4,600 | 4,000 | 4,000 | 18,000 | 3,400 |
| * | 12-17-02 | | 110,000 | 6,600 | 6,700 | 5,400 | 23,000 | 2,900 |
| * | 4-2-03 | | 89,000 | 4,800 | 6,000 | 4,600 | 20,000 | 5,900 |
| * | 6-12-03 | | 69,000 | 4,100 | 4,300 | 3,900 | 17,000 | 4,700 |
| * | 9-29-03 | | 96,000 | 7,000 | 7,700 | 5,100 | 22,000 | 6,200 |
| * | 12-04-03 | | 110,000 | 5,800 | 5,900 | 4,300 | 18,000 | 4,500 |
| * | 03-09-04 | | 130,000 | 5,900 | 9,700 | 4,900 | 22,000 | 6,000 |
| * | 6-24-04 | | 48,000 | 5,800 | 7,500 | 4,000 | 18,000 | 4,000 |
| * | 9-09-04 | | 64,000 | 4,800 | 7,500 | 4,500 | 19,000 | 2,200 |
| * | 12-21-04 | | 53,000 | 4,800 | 6,000 | 3,600 | 15,000 | 2,600 |
| * | 3-16-05 | | 82,000 | 4,000 | 8,600 | 3,900 | 18,000 | 4,300 |
| MW-2 | 8-18-00 | MW2 | 290,000 | 3700 | 990 | 7,300 | 26,000 | ND[3] |
| * | 3-30-01 | | 47,000 | 3,200 | 470 | 4,500 | 13,000 | 3,100 |
| * | 6-22-01 | | 57,000 | 2,500 | 350 | 4,200 | 12,000 | 1,800 |
| * | 9-20-01 | | 42,000 | 2,300 | 230 | 4,300 | 12,000 | 2,200 |
| * | 12-27-01 | | 70,000 | 2,900 | 390 | 4,800 | 14,000 | 2,400 |
| * | 9-24-02 | | 110,000 | 1,600 | 200 | 3,400 | 9,100 | 2,500 |
| * | 12-17-02 | | 66,000 | 2,400 | 340 | 4,600 | 13,000 | 1,900 |
| * | 4-2-03 | | 29,000 | 1,000 | 130 | 2,300 | 5,100 | 2,000 |
| * | 6-12-03 | | 8,700 | 380 | 52 | 790 | 2,000 | 2,200 |
| * | 9-29-03 | | 52,000 | 1,700 | 200 | 4,500 | 9,800 | 2,300 |
| * | 12-04-03 | | 66,000 | 1,500 | 210 | 4,500 | 9,200 | 1,900 |
| * | 03-09-04 | | 61,000 | 1,500 | 2,000 | 4,200 | 8,500 | 2,200 |
| * | 6-24-04 | | 29,000 | 1,200 | 72 | 3,100 | 6,000 | 2,100 |
| * | 9-09-04 | | 37,000 | 1,600 | 110 | 4,000 | 8,500 | 3,100 |
| * | 12-21-04 | | 27,000 | 1,400 | 84 | 3,100 | 5,400 | 3,200 |
| * | 3-16-05 | | 54,000 | 1,700 | 140 | 4,500 | 8,900 | 4,000 |

**TABLE II**
**ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**CONTINUED**

| Sample ID | Sample Date | Sample Location | TPHG µg/L | Benzene µg/L | Toluene µg/L | Ethylbenzene µg/L | Xylenes µg/L | MTBE µg/L |
|---|---|---|---|---|---|---|---|---|
| MW-3 | 8-18-00 | MW3 | 46,000 | 3,200 | 550 | 3,700 | 14,000 | 2,200 |
| * | 3-30-01 | | 30,000 | 3,300 | 340 | 2,800 | 9,100 | 4,700 |
| * | 6-22-01 | | 35,000 | 4,000 | 340 | 2,900 | 7,600 | 4,100 |
| * | 9-20-01 | | 30,000 | 3,800 | 260 | 2,500 | 6,600 | 5,300 |
| * | 12-27-01 | | 39,000 | 4,400 | 340 | 3,000 | 6,700 | 5,500 |
| * | 9-24-02 | | 53,000 | 4,100 | 270 | 3,100 | 6,600 | 6,400 |
| * | 12-17-02 | | 40,000 | 3,600 | 240 | 2,200 | 5,700 | 5,200 |
| * | 4-2-03 | | 24,000 | 2,000 | 130 | 1,800 | 3,300 | 3,000 |
| * | 6-12-03 | | 26,000 | 2,700 | 180 | 2,000 | 4,200 | 5,500 |
| * | 9-29-03 | | 39,000 | 4,000 | 220 | 3,200 | 5,300 | 4,800 |
| * | 12-04-03 | | 40,000 | 3,200 | 180 | 2,200 | 4,300 | 4,400 |
| * | 03-09-04 | | 39,000 | 3,100 | 160 | 2,100 | 4,400 | 4,000 |
| * | 6-24-04 | | 21,000 | 3,000 | 110 | 2,300 | 3,800 | 3,400 |
| * | 9-09-04 | | 26,000 | 4,100 | 140 | 2,200 | 4,300 | 6,000 |
| * | 12-21-04 | | 20,000 | 3,400 | 99 | 1,700 | 2,900 | 6,400 |
| * | 3-16-05 | | 35,000 | 1,800 | 78 | 1,900 | 2,600 | 4,000 |

1. TPHG = Total Petroleum Hydrocarbons as Gasoline
2. MTBE = Methyl Tertiary Butyl Ether
3. ND = Not Detected

* The Sample was analyzed for Fuel Oxygenates using EPA Method 8260B. Analytical result is for MTBE

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*Environmental Consultants*

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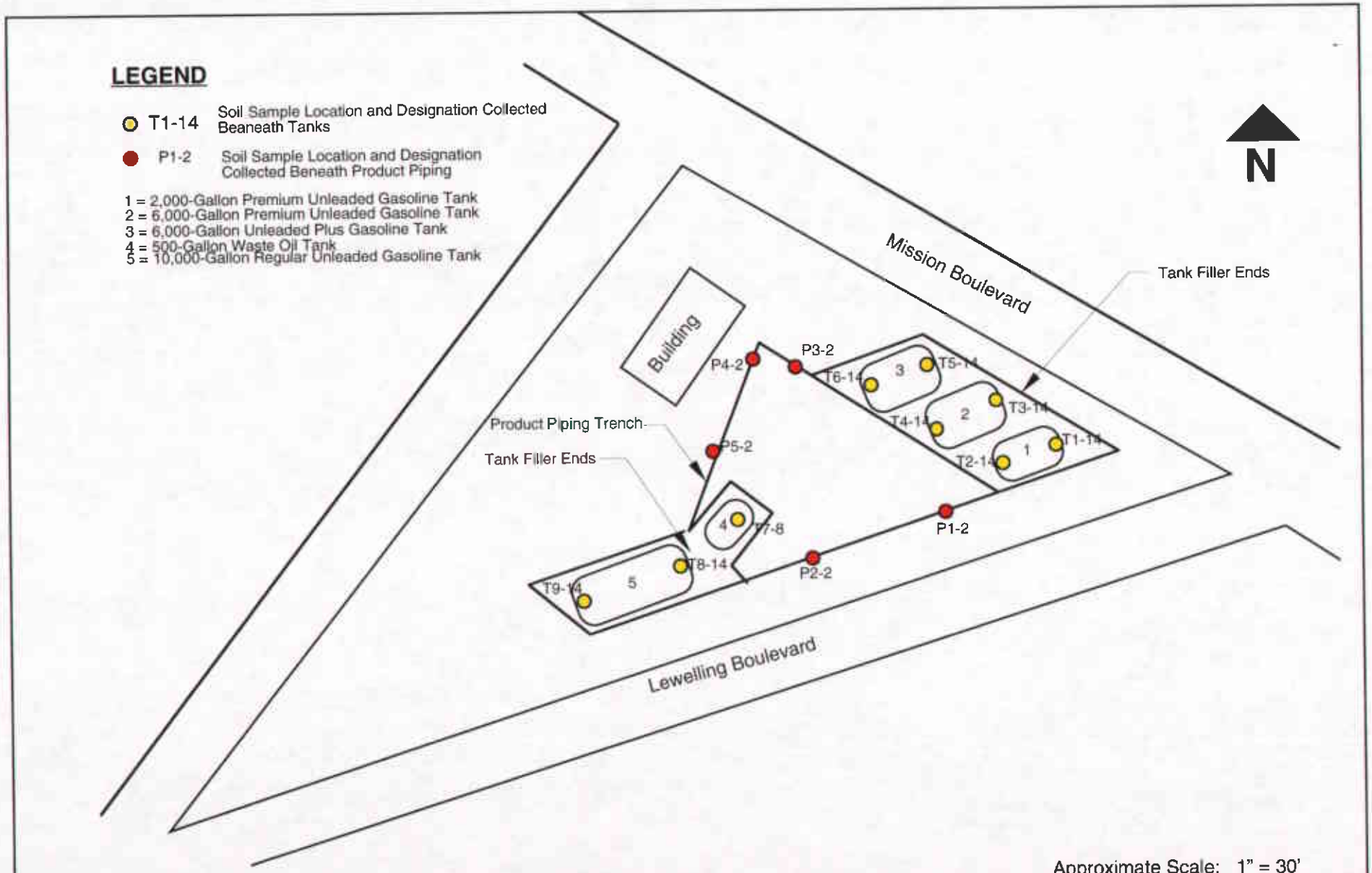
## SITE LOCATION MAP

**First Quarter 2005 Groundwater Monitoring**
**ABE Petroleum LLC**

**17715 Mission Boulevard • Hayward • California**

**FIGURE**
**1**

March 30, 2005
Project 03-103.07

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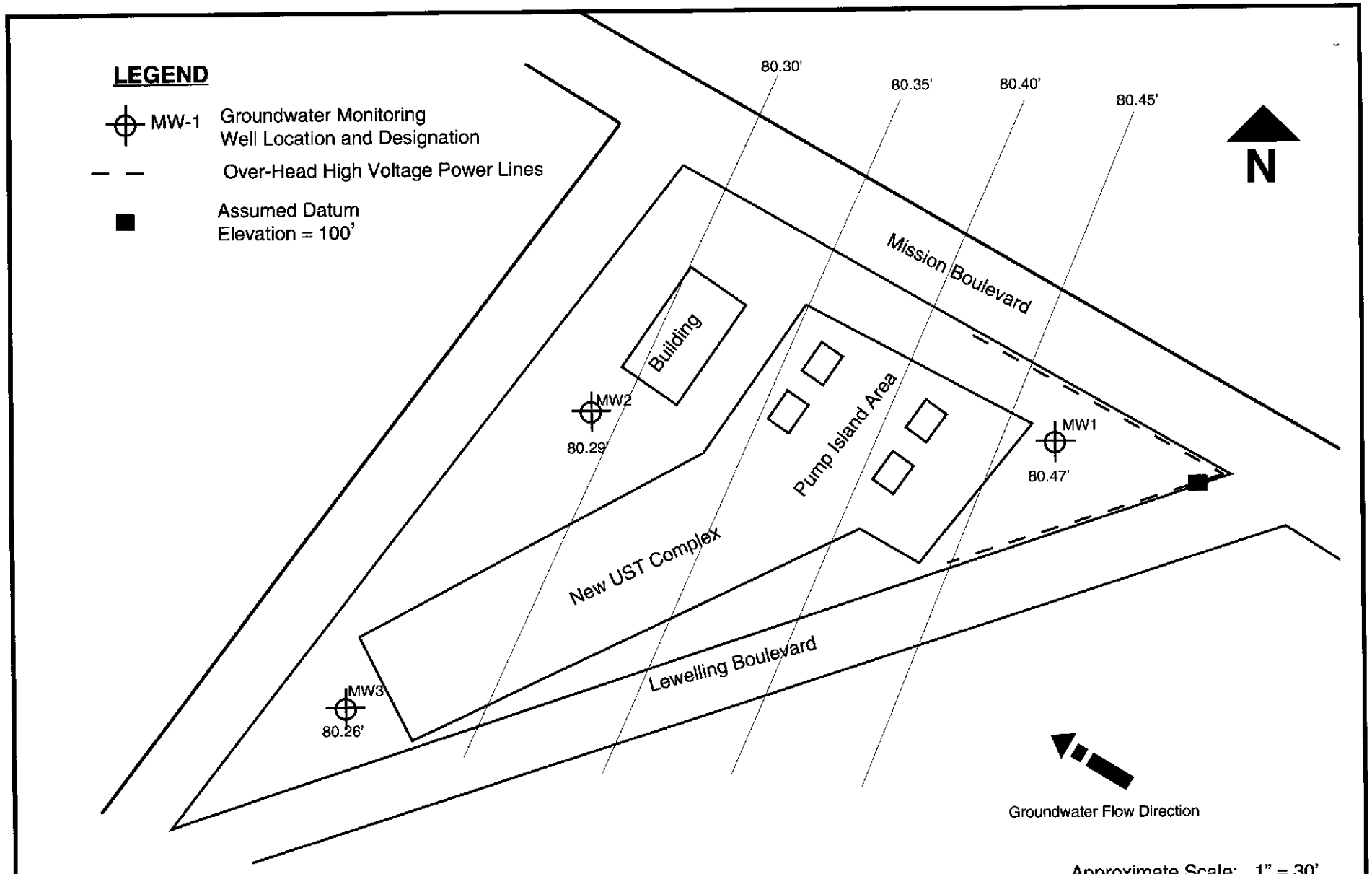
**Former UST and Soil Sample Locations**

**First Quarter 2005 Groundwater Monitoring**
**ABE Petroleum LLC**

**17715 Mission Boulevard • Hayward • California**

**FIGURE**
**2**
March 30, 2005
Project 03-103.07

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**Groundwater Monitoring Well Locations**

**First Quarter 2005 Groundwater Monitoring**
**ABE Petroleum LLC**

**17715 Mission Boulevard • Hayward • California**

**FIGURE**
**3**
March 30, 2005
Project 03-103.07

# Appendix A
# QA/QC PROTOCOL

# QA/QC PROTOCOL

## Groundwater Level and Well Depth Measurements

Groundwater level and well depths are measured using electrical sounder. An electrical sounder consists of a reel, two-conductor cable, a water sensor, and a control panel with a buzzer. To measure groundwater level, the sensor is lowered into a well. A low current circuit is completed when the sensor makes contact with water. The current in the circuit is then amplified and activates a buzzer which produce an audible signal. Cable markings are divided at 0.05-foot increments. Well depths are measured to the nearest 0.01 foot. Groundwater levels are measured before and after sample collection to ensure data accuracy.

## Well Purging

Low flow submersible electrical pumps or bailers are used to purge groundwater monitoring wells. Approximately 3 to 5 well casing volume of water is removed from the well as a measure to stabilize natural, and representative groundwater in each well. pH, electrical conductivity, and temperature of the purged water is measured and recorded at approximately each casing volume interval. Purge water is stabilized when pH is recorded within 0.5 unit, electrical conductivity is within 5 percent, and temperature is within 1.0 degree Celsius.

## Groundwater Sampling

Groundwater samples are transferred into appropriate containers provided by certified analytical laboratories. The containers include proper preservatives, and labels with appropriate project information. Groundwater is transferred into the containers with as little agitation as possible. After collection, containers are sealed and checked to ensure that no head space or air bubbles are present in the sample.

After collection, if required, samples are kept in a cooler to be delivered to analytical laboratory with chain-of-custody documentation.

## Equipment Decontamination

All sampling equipment are washed with Liqui-Nox® (a phosphate free laboratory detergent), and rinsed with tap water before each sampling event, and at each sampling interval. To reduce the risk of cross contamination, wells which have shown lower levels of contamination historically are purged and sampled first.

## Analytical Procedures

Samples are analyzed by an accredited State-certified analytical laboratory using procedures prescribed by United State Environmental Protection Agency (EPA) and other Federal, State, and Local agencies. At minimum a field blank is analyzed with each group of samples for quality assurance measures. At minimum two qualified personnel review analytical results and compare them with historical data for consistency and accuracy.

## Field Reports

All field observations are documented in field reports. A field report contain project information, climatic condition, contractor/subcontractor information, field observation, discussions and communications during each particular field activity. Field reports are stored in appropriate project files. Project managers review field reports to obtain necessary information regarding the status of each project on daily basis.

# Appendix B
# CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Mitch Hajiaghai
Sierra Environmental, Inc.
980 West Taylor Street
San Jose, CA 95126

**Certificate ID: 42832 - 3/25/2005 3:11:49 PM**

**Order Number: 42832**
**Project Name: ABE**
**Project Number: 03-103.07**

**Date Received: 3/16/2005 3:39:05 PM**
**P.O. Number: 03-103.07**

## Certificate of Analysis - Final Report

On March 16, 2005, samples were received under chain of custody for analysis. Entech analyzes samples "as received" unless otherwise noted. The following results are included:

| Matrix | Test | Method | Comments |
|---|---|---|---|
| Liquid | 8260Petroleum | EPA 8260B | |
| | TPH as Gasoline - GC/MS | GC-MS | |

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

Laurie Glantz-Murphy
Laboratory Director

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201


Sierra Environmental, Inc.
980 West Taylor Street
San Jose, CA 95126
Attn: Mitch Hajiaghai

Project Number: 03-103.07
Project Name: ABE
Date Received: 3/16/2005
P.O. Number: 03-103.07
Sample Collected by: Client

## Certificate of Analysis - Data Report

**Lab # :** 42832-001 **Sample ID:** MW-1 **Matrix:** Liquid **Sample Date:** 3/16/2005

**Method: EPA 8260B - Gas Chromatography/Mass Spectrometry (GC/MS)**
**Prep Method: EPA 5030B - Purge-and-Trap for Aqueous Samples**

| Parameter | Result | Flag | DF | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 4000 | | 100 | 50 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Toluene | 8600 | | 100 | 50 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Ethyl Benzene | 3900 | | 100 | 50 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Xylenes, Total | 18000 | | 100 | 50 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Methyl-t-butyl Ether | 4300 | | 100 | 100 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Ethyl-t-butyl Ether | ND | | 100 | 500 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| tert-Butanol (TBA) | ND | | 100 | 1000 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Diisopropyl Ether | ND | | 100 | 500 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| tert-Amyl Methyl Ether | ND | | 100 | 500 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |

Analyzed by: TAF
Reviewed by: MTU

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 107 | 75 - 125 |
| Dibromofluoromethane | 115 | 75 - 125 |
| Toluene-d8 | 110 | 75 - 125 |

**Method: GC-MS - Gas Chromatography/Mass Spectrometry (GC/MS)**
**Prep Method: EPA 5030B - Purge-and-Trap for Aqueous Samples**

| Parameter | Result | Flag | DF | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 82000 | | 100 | 2500 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |

Analyzed by: TFulton
Reviewed by: MTU

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 99.1 | 75 - 125 |
| Dibromofluoromethane | 102 | 75 - 125 |
| Toluene-d8 | 96.2 | 75 - 125 |

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank.

# Entech Analytical Labs, Inc.

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Sierra Environmental, Inc.
980 West Taylor Street
San Jose, CA 95126
Attn: Mitch Hajiaghai

Project Number: 03-103.07
Project Name: ABE
Date Received: 3/16/2005
P.O. Number: 03-103.07
Sample Collected by: Client

## Certificate of Analysis - Data Report

**Lab # :** 42832-002 **Sample ID:** MW-2 **Matrix:** Liquid **Sample Date:** 3/16/2005

**Method:** EPA 8260B - Gas Chromatography/Mass Spectrometry (GC/MS)
**Prep Method:** EPA 5030B - Purge-and-Trap for Aqueous Samples

| Parameter | Result | Flag | DF | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1700 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Toluene | 140 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Ethyl Benzene | 4500 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Xylenes, Total | 8900 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Methyl-t-butyl Ether | 4000 | | 50 | 50 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Ethyl-t-butyl Ether | ND | | 50 | 250 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| tert-Butanol (TBA) | ND | | 50 | 500 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Diisopropyl Ether | ND | | 50 | 250 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| tert-Amyl Methyl Ether | ND | | 50 | 250 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 107 | 75 - 125 |
| Dibromofluoromethane | 112 | 75 - 125 |
| Toluene-d8 | 111 | 75 - 125 |

Analyzed by: TAP
Reviewed by: MTU

**Method:** GC-MS - Gas Chromatography/Mass Spectrometry (GC/MS)
**Prep Method:** EPA 5030B - Purge-and-Trap for Aqueous Samples

| Parameter | Result | Flag | DF | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 54000 | | 50 | 1300 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 99.0 | 75 - 125 |
| Dibromofluoromethane | 99.5 | 75 - 125 |
| Toluene-d8 | 97.0 | 75 - 125 |

Analyzed by: TFulton
Reviewed by: MTU

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank.

# Entech Analytical Labs, Inc.

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Sierra Environmental, Inc.
980 West Taylor Street
San Jose, CA 95126
Attn: Mitch Hajiaghai

Project Number: 03-103.07
Project Name: ABE
Date Received: 3/16/2005
P.O. Number: 03-103.07
Sample Collected by: Client

## Certificate of Analysis - Data Report

**Lab # :** 42832-003 **Sample ID:** MW-3 **Matrix:** Liquid **Sample Date:** 3/16/2005

**Method:** EPA 8260B - Gas Chromatography/Mass Spectrometry (GC/MS)
**Prep Method:** EPA 5030B - Purge-and-Trap for Aqueous Samples

| Parameter | Result | Flag | DF | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1800 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Toluene | 78 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Ethyl Benzene | 1900 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Xylenes, Total | 2600 | | 50 | 25 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Methyl-t-butyl Ether | 4000 | | 50 | 50 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Ethyl-t-butyl Ether | ND | | 50 | 250 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| tert-Butanol (TBA) | ND | | 50 | 500 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| Diisopropyl Ether | ND | | 50 | 250 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |
| tert-Amyl Methyl Ether | ND | | 50 | 250 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 107 | 75 - 125 |
| Dibromofluoromethane | 111 | 75 - 125 |
| Toluene-d8 | 111 | 75 - 125 |

Analyzed by: TAF
Reviewed by: MTU

**Method:** GC-MS - Gas Chromatography/Mass Spectrometry (GC/MS)
**Prep Method:** EPA 5030B - Purge-and-Trap for Aqueous Samples

| Parameter | Result | Flag | DF | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 35000 | | 50 | 1300 | µg/L | N/A | N/A | 03/23/2005 | WMS2050323 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 98.4 | 75 - 125 |
| Dibromofluoromethane | 98.5 | 75 - 125 |
| Toluene-d8 | 96.5 | 75 - 125 |

Analyzed by: TFulton
Reviewed by: MTU

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank.

# Entech Analytical Labs, Inc.

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## Quality Control - Method Blank

## Liquid

Validated by: MTU - 03/25/05

**QC Batch ID: WMS2050323**

**QC Batch ID Analysis Date: 3/23/2005**

**Method Blank** **Method: EPA 8260B**

| Parameter | Result | DF | PQLR | Units |
|---|---|---|---|---|
| Benzene | ND | 1 | 0.50 | µg/L |
| Diisopropyl Ether | ND | 1 | 5.0 | µg/L |
| Ethyl Benzene | ND | 1 | 0.50 | µg/L |
| Ethyl-t-butyl Ether | ND | 1 | 5.0 | µg/L |
| Methyl-t-butyl Ether | ND | 1 | 1.0 | µg/L |
| tert-Amyl Methyl Ether | ND | 1 | 5.0 | µg/L |
| tert-Butanol (TBA) | ND | 1 | 10 | µg/L |
| Toluene | ND | 1 | 0.50 | µg/L |
| Xylenes, Total | ND | 1 | 0.50 | µg/L |

| Surrogate for Blank | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 111 | 75 - 125 |
| Dibromofluoromethane | 104 | 75 - 125 |
| Toluene-d8 | 110 | 75 - 125 |

# Entech Analytical Labs, Inc.

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## Quality Control - Method Blank
## Liquid

Validated by: MTU - 03/25/05

**QC Batch ID: WMS2050323**

**QC Batch ID Analysis Date: 3/23/2005**

**Method Blank** **Method: GC-MS**

| Parameter | Result | DF | PQLR | Units |
|---|---|---|---|---|
| TPH as Gasoline | ND | 1 | 25 | µg/L |

| Surrogate for Blank | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 103 | 75 - 125 |
| Dibromofluoromethane | 92.2 | 75 - 125 |
| Toluene-d8 | 95.7 | 75 - 125 |

# Entech Analytical Labs, Inc.

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## Quality Control - Laboratory Control Spike / Duplicate Results

## Liquid

Reviewed by: MTU - 03/25/05

**QC Batch ID: WMS2050323**

**QC Batch ID Analysis Date: 3/23/2005**

**Method: EPA 8260B** — **Conc. Units: µg/L**

LCS

| Parameter | Blank (MDL) | Spike Amt | SpikeResult | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.2 | 20 | 21 | 105 | | | 80 - 120 |
| Benzene | <0.2 | 20 | 20 | 102 | | | 80 - 120 |
| Chlorobenzene | <0.2 | 20 | 20 | 101 | | | 80 - 120 |
| Methyl-t-butyl Ether | <0.3 | 20 | 20 | 98.3 | | | 80 - 120 |
| Toluene | <0.2 | 20 | 21 | 107 | | | 80 - 120 |
| Trichloroethene | <0.2 | 20 | 20 | 102 | | | 80 - 120 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 106 | 75 - 125 |
| Dibromofluoromethane | 106 | 75 - 125 |
| Toluene-d8 | 111 | 75 - 125 |

LCSD

| Parameter | Blank (MDL) | Spike Amt | SpikeResult | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.2 | 20 | 20 | 102 | 3.1 | 25.0 | 80 - 120 |
| Benzene | <0.2 | 20 | 20 | 97.6 | 3.9 | 25.0 | 80 - 120 |
| Chlorobenzene | <0.2 | 20 | 19 | 96.2 | 4.5 | 25.0 | 80 - 120 |
| Methyl-t-butyl Ether | <0.3 | 20 | 19 | 96.9 | 1.5 | 25.0 | 80 - 120 |
| Toluene | <0.2 | 20 | 20 | 102 | 4.7 | 25.0 | 80 - 120 |
| Trichloroethene | <0.2 | 20 | 20 | 99.2 | 3.1 | 25.0 | 80 - 120 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 104 | 75 - 125 |
| Dibromofluoromethane | 106 | 75 - 125 |
| Toluene-d8 | 109 | 75 - 125 |

**Method: GC-MS** — **Conc. Units: µg/L**

LCS

| Parameter | Blank (MDL) | Spike Amt | SpikeResult | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|
| TPH as Gasoline | <6 | 250 | 250 | 102 | | | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 98.9 | 75 - 125 |
| Dibromofluoromethane | 95.3 | 75 - 125 |
| Toluene-d8 | 97 | 75 - 125 |

LCSD

| Parameter | Blank (MDL) | Spike Amt | SpikeResult | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|
| TPH as Gasoline | <6 | 250 | 240 | 94.6 | 7.4 | 25.0 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 98.4 | 75 - 125 |
| Dibromofluoromethane | 97.4 | 75 - 125 |
| Toluene-d8 | 97.8 | 75 - 125 |

# Entech Analytical Labs, Inc.

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## Quality Control - Matrix Spike / Duplicate Results
## Liquid

Reviewed by: MTU - 03/25/05

**QC Batch ID: WMS2050323**

**QC Batch ID Analysis Date: 3/23/2005**

Conc. Units: µg/L

**Method EPA 8260B**

MS

| SampleNumber: 42829-001 Parameter | Sample Result | Spike Amount | Spike Result | Analysis Date | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 20 | 20.7 | 3/23/2005 | 103 | | | 65 - 135 |
| Benzene | ND | 20 | 19.7 | 3/23/2005 | 98.7 | | | 65 - 135 |
| Chlorobenzene | ND | 20 | 19.5 | 3/23/2005 | 97.6 | | | 65 - 135 |
| Methyl-t-butyl Ether | ND | 20 | 19.5 | 3/23/2005 | 97.5 | | | 65 - 135 |
| Toluene | ND | 20 | 19.9 | 3/23/2005 | 99.6 | | | 65 - 135 |
| Trichloroethene | ND | 20 | 18.8 | 3/23/2005 | 94.2 | | | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 111 | 75 - 125 |
| Dibromofluoromethane | 115 | 75 - 125 |
| Toluene-d8 | 109 | 75 - 125 |

MSD

| SampleNumber: 42829-001 Parameter | Sample Result | Spike Amount | Spike Result | Analysis Date | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 20 | 21.3 | 3/23/2005 | 106 | 2.9 | 25 | 65 - 135 |
| Benzene | ND | 20 | 20.4 | 3/23/2005 | 102 | 3.2 | 25 | 65 - 135 |
| Chlorobenzene | ND | 20 | 19.7 | 3/23/2005 | 98.3 | 0.7 | 25 | 65 - 135 |
| Methyl-t-butyl Ether | ND | 20 | 22.8 | 3/23/2005 | 114 | 15.8 | 25 | 65 - 135 |
| Toluene | ND | 20 | 20.7 | 3/23/2005 | 103 | 3.8 | 25 | 65 - 135 |
| Trichloroethene | ND | 20 | 20.4 | 3/23/2005 | 102 | 8.0 | 25 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 106 | 75 - 125 |
| Dibromofluoromethane | 117 | 75 - 125 |
| Toluene-d8 | 109 | 75 - 125 |

**SIERRA ENVIRONMENTAL, INC.**
*Environmental Consultants*

# CHAIN OF CUSTODY RECORD

**Project Name:** ABE **Project No:** 03-103.07 **Date:** 12-21-04

**Project Location:** 17715 Mission BLVD. **Client:** ABE **Sampler:** Mike

| Sample ID | Date Sampled | Sampling Time | Matrix | Nº of Containers | Analysis Requested: 8015/8020 TPHG BTEX | 8015 TPHD | TPHG BTEX Fuel Oxygenate 8260 | | | | Turnaround Time |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | ~~12-21-04~~ | JH | water | 4 | | | X | | 42832-001 | | 24-hour Other ___ Normal |
| MW-2 | ↓ | | ↓ | ↓ | | | X | | | 002 | 24-hour Other ___ Normal |
| MW-3 | ↓ | | ↓ | ↓ | | | X | | | 003 | 24-hour Other ___ Normal ↓ |
| | | | | | | | | | | | 24-hour Other ___ Normal |
| | | | | | | | | | | | 24-hour Other ___ Normal |
| | | | | | | | | | | | 24-hour Other ___ Normal |
| | | | | | | | | | | | 24-hour Other ___ Normal |

*Remarks:* Please email results in EDF Format for Geotracker Global ID # T0600102154
Note: Samples contain preservative.

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| | 12/21/04 | 1:05 | | 12/21/04 | 1310 |

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Phone (408) 971-6788 • Fax (408) 971-6759

SIERRA Form 104-02

# Appendix C
# FIELD NOTES

SIERRA ENVIRONMENTAL, INC.
*Environmental Consultants*

# GROUNDWATER MONITORING DATA FORM

**Project No:** ~~03-103.03~~ **Date:** 3-16-05

**Project Name:** ABE **Well Nº:** ~~MW1~~

**Field Personnel:** Mike **Weather:** Sunny

**Project Location:**

| PURGE WATER VOLUME CALCULATION | Total Well Depth (ft) | Depth to Water (ft | Water Column (ft) | Multiplier Casing Diameter | | | Casing Volume (gal) | Purged Volume (gal) |
|---|---|---|---|---|---|---|---|---|
| | | | | 2" | 4" | 6" | | |
| | 33.25' | 18.99 | 14.26 | 0.16 | 0.64 | 1.44 | 2.28 | 6.84 |

**Purge Method:** Bailer **Measuring Reference:** TOC

| Time | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged (gal) | 0 | 2.28 | 4.56 | 6.84 | | |
| Temperature (° F ) | 66.0 | 66.0 | 65.9 | 64.2 | | |
| pH | 6.92 | 6.86 | 6.81 | 6.76 | | |
| Specific Conductivity (umhos/cm ) | 1.31 | 1.42 | 1.51 | 1.53 | | |
| Turbidity/Color | Light Brown | → | → | → | | |
| Odor | Yes | → | → | → | | |

**Comments:**

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*Environmental Consultants*

# GROUNDWATER MONITORING DATA FORM

**Project No:** ~~03-103.03~~ **Date:** 3-16-05

**Project Name:** ABE **Well Nº:** ~~MW2~~

**Field Personnel:** Mike & Maz **Weather:** Clear

**Project Location:**

| PURGE WATER VOLUME CALCULATION | Total Well Depth (ft) | Depth to Water (ft | Water Column (ft) | Multiplier Casing Diameter | | | Casing Volume (gal) | Purged Volume (gal) |
|---|---|---|---|---|---|---|---|---|
| | | | | 2" | 4" | 6" | | |
| | 33.75' | ~~20.50~~ 20.29 | 13.46 | 0.16 | 0.64 | 1.44 | 2.15 | 6.46 |

**Purge Method:** Bailer **Measuring Reference:** TOC

| | | | | | | |
|---|---|---|---|---|---|---|
| Time | ~~2:15~~ | 2:30 | 4:5 | 6.46 | | |
| Volume Purged (gal) | ~~[illegible]~~ | ~~[illegible]~~ | ~~[illegible]~~ | | | |
| Temperature (° F) | 67.3 | 68.1 | 68.5 | 69.1 | | |
| pH | 6.65 | 6.33 | 6.30 | 6.22 | | |
| Specific Conductivity (umhos/cm) | 1.46 | 1.53 | 1.53 | 1.51 | | |
| Turbidity/Color | light brown | " | " | " | | |
| Odor | yes | " | " | " | | |

**Comments:**

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**SIERRA ENVIRONMENTAL, INC.**
*Environmental Consultants*

# GROUNDWATER MONITORING DATA FORM

**Project No:** ~~03-103.03~~ **Date:** 3-16-05

**Project Name:** ABE **Well №:** C MW-3

**Field Personnel:** Mike and Roma2 **Weather:** Sun clear

**Project Location:**

| PURGE WATER VOLUME CALCULATION | Total Well Depth (ft) | Depth to Water (ft | Water Column (ft) | Multiplier Casing Diameter | | | Casing Volume (gal) | Purged Volume (gal) |
|---|---|---|---|---|---|---|---|---|
| | | | | 2" | 4" | 6" | | |
| | 33.75 | 19.43 | 14.32 | 0.16 | 0.64 | 1.44 | 2.29 | 6.87 |

**Purge Method:** Bailer **Measuring Reference:** TOC

| Time | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged (gal) | 0 | 2.25 | 5.0 | 6.87 | | |
| Temperature (° F) | 68.2 | 67.5 | 66.30 | 66.20 | | |
| pH | 6.74 | 6.66 | 6.51 | 6.42 | | |
| Specific Conductivity (umhos/cm ) | 1.02 | 1.25 | 1.23 | 1.26 | | |
| Turbidity/Color | Light Brown | → | → | → | | |
| Odor | Yes | → | → | → | | |

Comments:

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# Electronic Submittal Information

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Your EDF file has been succcessfully uploaded!

**Confirmation Number:** 7854993462
**Date/Time of Submittal:** 4/4/2005 11:00:54 AM
**Facility Global ID:** T0600102154
**Facility Name:** ABE PETROLEUM
**Submittal Title:** First Quarter 2005 Groundwater Monitoring
**Submittal Type:** GW Monitoring Report

**Click here to view the detections report for this upload.**

**ABE PETROLEUM**
17715 MISSION BLVD
HAYWARD, CA 94544

**Regional Board - Case #: 01-2344**
SAN FRANCISCO BAY RWQCB (REGION 2) - **(RDB)**
**Local Agency (lead agency) - Case #: 4117**
ALAMEDA COUNTY LOP - **(AG)**

| CONF # | TITLE | QUARTER |
|---|---|---|
| 7854993462 | First Quarter 2005 Groundwater Monitoring | Q1 2005 |

| SUBMITTED BY | SUBMIT DATE | STATUS |
|---|---|---|
| Mitch Hajiaghai | 4/4/2005 | PENDING REVIEW |

## SAMPLE DETECTIONS REPORT

| | |
|---|---|
| # FIELD POINTS SAMPLED | 3 |
| # FIELD POINTS WITH DETECTIONS | 3 |
| # FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL | 3 |
| SAMPLE MATRIX TYPES | WATER |

## METHOD QA/QC REPORT

| | |
|---|---|
| METHODS USED | 8260FAB,8260TPH |
| TESTED FOR REQUIRED ANALYTES? | N |
| MISSING PARAMETERS NOT TESTED: | |
| - 8260FAB REQUIRES DCA12 TO BE TESTED | |
| - 8260FAB REQUIRES EDB TO BE TESTED | |
| - 8260FAB REQUIRES ETHANOL TO BE TESTED | |
| LAB NOTE DATA QUALIFIERS | N |

## QA/QC FOR 8021/8260 SERIES SAMPLES

| | |
|---|---|
| TECHNICAL HOLDING TIME VIOLATIONS | 0 |
| METHOD HOLDING TIME VIOLATIONS | 0 |
| LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT | 0 |
| LAB BLANK DETECTIONS | 0 |
| DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING? | |
| - LAB METHOD BLANK | Y |
| - MATRIX SPIKE | N |
| - MATRIX SPIKE DUPLICATE | N |
| - BLANK SPIKE | Y |
| - SURROGATE SPIKE | Y |

## WATER SAMPLES FOR 8021/8260 SERIES

| | |
|---|---|
| MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135% | n/a |

| | |
|---|---|
| MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% | n/a |
| SURROGATE SPIKES % RECOVERY BETWEEN 85-115% | N |
| BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% | Y |

## SOIL SAMPLES FOR 8021/8260 SERIES

| | |
|---|---|
| MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135% | n/a |
| MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% | n/a |
| SURROGATE SPIKES % RECOVERY BETWEEN 70-125% | n/a |
| BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% | n/a |

## FIELD QC SAMPLES

| SAMPLE | COLLECTED | DETECTIONS > REPDL |
|---|---|---|
| QCTB SAMPLES | N | 0 |
| QCEB SAMPLES | N | 0 |
| QCAB SAMPLES | N | 0 |

Logged in as MITCHHAJIAGHAI (AUTH_RP)

CONTACT SITE ADMINISTRATOR.