RECEIVED
By Alameda County Environmental Health at 11:14 am, Aug 04, 2014

July 24, 2014

Rita and Tony Sullins
Don Sul Inc.
187 North L Street
Livermore, CA 94550

Re: Transmittal Letter
Site Location: Arrow Rentals
187 North L Street, Livermore, CA 94550

Dear Mr. Wickham:

On behalf of Rita and Tony Sullins, Don Sul Inc., Ground Zero Analysis, Inc. (GZA) prepared the 1st 2013 Semi-Annual Groundwater Monitoring, dated July 24, 2014 that was sent to your office via electronic delivery per Alameda County's guidelines.

I declare under penalty of law that the information and/or recommendations contained in the above referenced document or report is true and correct to the best of my knowledge.

Respectfully submitted,

Rita / Tony Sullins
Property Owner
Don Sul Inc.
187 North L Street
Livermore, CA 94550

GROUND ZERO
ANALYSIS, INC.

1172 Kansas Avenue, Suite A
Modesto, CA 95351
209.522.4119 – PH
209.522.4227 - FAX
groundzeroanalysis.com

REPORT

1st Semi-Annual Groundwater Monitoring & Remedial Effectiveness (Performed in 2nd Quarter: June 2014)

Arrow Rentals Service
187 North L St.
Livermore, CA 94550

Project No. 1262.2
July 24, 2014

Prepared for:
Tony & Rita Sullins
Arrow Rentals Service
187 North L St.
Livermore, CA 94550

Prepared by:
Ground Zero Analysis, Inc.
1172 Kansas Ave.
Modesto, California 95351
(209) 522-4119

GROUND ZERO
ANALYSIS, INC.

1172 Kansas Avenue, Suite A
Modesto, CA 95351
209.522.4119 – PH
209.522.4227 - FAX
groundzeroanalysis.com

July 24, 2014

Project No.: 1262.2
Project Name: Sullins (L St.)

Tony & Rita Sullins
Arrow Rentals Service
187 North L Street
Livermore, CA 94550

RE: Report: 1st Semi-Annual Groundwater Monitoring & Remedial Effectiveness Performed 2nd Quarter, June 2014
Location: 187 North L Street, Livermore, CA 94550.
(ACEH Fuel Leak Case No. RO0000394)

Dear Mr. & Ms. Sullins:

Ground Zero Analysis, Inc. has prepared the following Report for the 1st Semi-Annual 2014 groundwater monitoring event performed between June 16th and June 17th, 2014, at the 187 North L Street property in Livermore, CA. In addition, the remedial activities performed during the 1st and 2nd Quarters of 2014 will be discussed. An elevated core of gasoline contamination persists in the location of and down-gradient (northwest) of the former USTs/piping. The Corrective Action Plan (CAP) and the Dual Phase Extraction (DPE) and air sparging systems which were started on November 15th, 2011 and March 21st, 2012 (respectively) and they continue to operate.

If you have any questions, please do not hesitate to call me at (209) 522-4119.

Respectfully submitted,

Raynold I. Kablanow II, PhD
PG, CHG, REAII

cc: Jerry Wickham - ACEH
USTCUF (Via Geotracker)

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GROUND ZERO ANALYSIS, INC.

1172 Kansas Avenue, Suite A
Modesto, CA 95351
209.522.4119 – PH
209.522.4227 - FAX
groundzeroanalysis.com

REPORT

1st Semi-Annual Groundwater Monitoring & Remedial Effectiveness

Arrow Rentals Services
187 North L St.
Livermore, CA

Project No. 1262.2
July 24, 2014

1.0 EXECUTIVE SUMMARY

This report summarizes the results of the 1st Semi-Annual 2014 groundwater monitoring and sampling event that took place between June 16th and June 17th, 2014. In addition, the remedial activities performed during the 1st and 2nd Quarters of 2014 will be included in this report.

The average shallow groundwater elevation at the site was 437.07 feet above mean sea level (msl) and the average depth to water was 42.44 feet below ground surface (bgs). This represents a decrease of 7.76 feet since the December 2013 monitoring event and a decrease of 6.23 feet since the June 2013 monitoring event. The shallow groundwater flow was southwest (S59°W) at a slope of 0.0255 ft/ft for this event.

The analytical results of groundwater samples show that detectable concentrations of gasoline range petroleum hydrocarbons were present in all fifteen of the site's groundwater monitoring wells sampled during this event. Historically, a persistent core of high concentrations has remained in the vicinity of wells W-1/W-1s/CMT-4, which are located adjacent to former USTs/piping trenches and is down gradient of the former UST system. A secondary core of high concentrations persists in the vicinity of CMT-5 in the intermediate zone (MW-205), which is down-gradient of the Pitcock Release.

GZA is currently implementing the Corrective Action Plan (CAP) which includes the operation of a Dual Phase Extraction (DPE) system and an air sparging system to treat the

residual contamination at the site, which was started on November 15th, 2011 and March 21st, 2012, respectively. As of the end of the 2nd Quarter 2014, the DPE system has removed a total of approximately 11,459.6 pounds, or 1863.3 gallons, of gasoline hydrocarbons as TPH-G. During the 1st and 2nd Quarters of 2014, the DPE system operated for 2,300 hours and removed a total of approximately 408.8 pounds or 66.5 gallons of gasoline hydrocarbons as TPH-G.

Recommendations

1. Continue groundwater monitoring as directed by Alameda County Environmental Health in their most recent email dated October 6th, 2011.
2. In the event that the groundwater elevation rises enough to allow for sampling of the shallow CMT well intervals (MW-4, MW-5/105, MW-6/106, MW-7/107 & MW-8/108), we recommend that the opportunity be taken at it's soonest event.
3. It is recommended that the DPE system operate in a pulse mode, as discussed in Section 4.3 of this report.
4. In consideration of the Low Threat Closure Policy – Path to Closure document dated February 25, 2014; GZA recommends continuing the implementation of the Corrective Action Plan (CAP) and operating the Dual Phase Extraction (DPE) and air sparging systems thru the 2nd Quarter of 2015 followed by 6 months of verification monitoring. Following the 6 months of verification monitoring, GZA will assess whether further remediation is necessary.

1.1 Site History

Gasoline range petroleum hydrocarbons associated with underground storage tank (UST) systems have been documented in soil and groundwater at 187 North L Street, Livermore, CA (sees Figures 1 and 2 for vicinity and site maps).

The work performed to date is summarized below*:

- 1972 – Three 1,500 gallon gasoline USTs removed.
- 1984 – A single 1,000 gallon gasoline UST installed.
- 1986 – Two gasoline USTs removed (4,000 & 6,000 gallon).
- June 1985 – Pitcock Petroleum dispenses ~600 gallons into a vapor monitoring well adjacent to the 1,000 gasoline UST (Pitcock Release).
- September 1988 – Three monitoring wells installed (W-1, W-2 and W-3).
- March 1989 – Five soil borings advanced (B-1 through B-5).
- May 1989 – Three monitoring wells installed (W-1, W-2 and W-3).
- July 1990 – Five monitoring wells installed (W-A through W-E), three soil borings advanced (B-7, B-8 and B-1A), and a soil gas survey was completed.
- March 1991 – A single soil boring advanced (B-F).
- January 1992 - UST pipeline soil excavation and sampling, two soil borings advanced (B-G and B-H).

- March 1994 – Dual Phase Extraction pilot test performed.
- March 1996 - Four monitoring wells installed (W-1s, W-Bs, W-3s and W-Es).
- 1998- Soil gas survey.
- November 2005 - Soil gas survey.
- October 2006 - Five continuous tubing multi-Chambered wells installed (the MW-4/104/204/304/404 through MW-8/108/208/308 series).
- October 2006 - Dual Phase Extraction pilot test performed.
- August 2007 – Final Corrective Action Plan prepared.
- April 2011 – Begin implementation of Corrective Action Plan.
- November 2011 – Start-up of Dual Phase Extraction (DPE) system.
- March 2012 – Start-up of air sparging system
- 1988 to present – intermittent monitoring/sampling of select monitoring wells.
  * Data from Woodward Clyde Consultants, GTI, & ACEH documentation.

1.2 Site Setting and Geology

The site is in the central portion of the City of Livermore, California, which is located in the Livermore Valley. The shallow sediments (<100 feet below grade) investigated in the project are Pleistocene (recent) alluvial fan and flood plain deposits [source: Geologic Map of California, San Jose Sheet, Division of Mines and Geology, 1966 (truncated geologic map copy located in Appendix D)].

The subject property is at an elevation of approximately 480 feet above mean sea level based on an October 16, 2006 survey conducted by Keir & Wright Engineers Surveyors Inc. of Livermore, California. Regionally, the surrounding area slopes to the west [source: USGS, Livermore Quadrangle, 7.5 Minute Series Topographic Map, 1980 photo-revision (truncated topographic map copy located in Appendix D)].

The subjective field observations of various field geologists and associated boring logs documented during this investigation were included in GTI's December 18, 2006 SCM report. The subsurface lithology falls into two predominant categories – clayey/sandy gravels and clays; with minor amounts of silt and sand units. The site exhibits little correlation between boreholes and this situation is exacerbated by the fact that different geologists logged the boreholes and a five foot sampling interval was utilized in the past. The Site's geology is summarized as consisting primarily of gravelly units from the surface to approximately 35 – 45 feet bgs. Below these depths are 15 to 20 feet of clayey units that seem to retard the vertical migration of contaminants. These fine grained units are underlain by more gravels and a second clay horizon at approximately 78 feet bgs. Silts and sand units are present in the soil profile but are thin (usually a few inches thick, but much less than 5 feet thick) and less frequent than the soils noted above.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Elevation and Flow Direction

The average groundwater elevation in the site's shallow water table wells was 437.07 feet above mean sea level (amsl) on June 16th, 2014. This corresponds to 42.44 feet below grade surface (bgs) and represents a decrease of 7.76 feet since the December 2013 monitoring event and a decrease of 6.23 feet since the June 2013 monitoring event. The depth to groundwater observed in the site's wells has ranged from approximately 20 - 44 feet below grade surface from 1989 to 2012. Refer to Figures 1 through 3 for site details, well and borehole locations.

GTI grouped the five CMT™ well sets installed in October 2006 and existing wells according to the aquifer interval that the screened section intercepted (see Table 3 in Appendix A for well construction details, and Figure 4 for well screen intervals):

Shallow Wells (screened 20 – 45 feet bgs):
W-1s, W-Bs, W-3s, W-Es, and either {MW-4, MW-5, MW-6, MW-7, MW-8} or {MW-105, MW-106, MW-107, MW-108} depending on groundwater elevation

Intermediate Wells (screened 40 – 60 feet bgs):
W-1, W-3, W-A, MW-104, MW-205, MW-206, MW-207, MW-208.
Notes:

- Well W-1 is considered intermediate and is monitored; however the well is not utilized for groundwater gradient measurements due to modifications to the well top for remedial purposes.
- Monitoring well W-2 cannot be located following the construction of the housing complex to the south and southeast of the site.
- Monitoring well W-3 could not be monitored since an access agreement could not be obtained from Signature Properties.

Deep Wells (screened ~ 65 feet bgs):
MW-204, MW-305, MW-306, MW-307, MW-308

Deepest Wells (screened > 70 feet bgs):
MW-304, MW-404

The groundwater elevation data are summarized in Tables 1A, 1B and 1C of Appendix A, for the shallow, intermediate and deep/deepest aquifer levels, respectively.

Horizontal Groundwater Gradients:
The calculated gradients for the June 2014 monitoring event are as follows:

Aquifer Zone:	Gradient:	Bearing:
Water table	0.0255	S59°W
Intermediate	0.076	N74°W
Deep	0.012	N49°W

Figures 5A illustrates the shallow aquifer groundwater gradient map for the June 2014 monitoring event. Figure 5B and 5C illustrate the intermediate and deep aquifer gradient maps, respectively.

Vertical Groundwater Gradients:
GZA calculated vertical gradients for well pairs MW-204/304, MW-205/305, MW-206/306 and MW-207/307 for the June 2014 monitoring event, which are as follows:

- MW-204/304 negative (or downward) at -0.012 ft/ft.
- MW-205/305 negative (or downward) at -0.045 ft/ft.
- MW-206/306 negative (or downward) at -0.004 ft/ft.
- MW-207/307 positive (or upward) at 0.012 ft/ft.

Figure 3 shows the location of the well pairs used for calculating vertical groundwater gradient in this report: MW-204/304, MW-205/305 MW-206/306, and MW-207/307; Table 2 in Appendix A shows the calculated vertical gradients. The procedure for calculating the vertical groundwater gradient is included in Appendix D.

2.2 Groundwater Sampling Procedure

Between June 16th and June 17th, 2014, Ground Zero Analysis, Inc. (GZA) staff mobilized to the site to conduct depth-to-water measurements and purging & sampling of the site's monitoring wells. Before sampling was attempted, the wells were sounded for depth to water and groundwater levels recorded with exceptions as noted. The CMT™ wells were purged of at least three well volumes of stagnant water by hand. The non-CMT™ wells were purged of at least three well volumes of stagnant water using a dedicated Waterra check-ball. Purging continued until the temperature, conductivity, and pH of the groundwater stabilized (<10% variation in three consecutive readings), indicating that formation water representative of aquifer conditions was entering the wells.

Once purging was complete, water samples were collected from the Waterra poly tube. Care was taken to minimize sample agitation. Once a sample container was filled and capped, the bottle was inverted, tapped and checked for headspace bubbles. The sample container was identified and labeled with a unique designation, inserted into a foam holder and placed into an ice chest cooled to 4°C for transport to the laboratory. Disposable gloves were used by the technician to collect all samples and were changed with each sample collection.

The following deviations from the sampling protocol are noted:

- *Several CMT™ wells did not contain enough water to purge and collect samples. Samples were not collected from the following wells: MW-4, MW-5, MW-6, MW-7, MW-8, MW-105, MW-106, MW-107 and MW-108 during the June 2014 event.*

A chain of custody document, listing all samples collected, accompanied the samples from field to laboratory, thereby providing a means to track the movement of and ensure the integrity of the samples.

All well purge water was placed in a 55 gallon DOT approved container. Upon completing the groundwater monitoring event, all purge water was pumped from drums and into the DPE system for remediation prior to being discharged to the sanitary sewer system.

Groundwater monitoring field logs are included in Appendix C.

2.3 Laboratory Analyses

The groundwater samples collected during the June 2014 groundwater monitoring event were delivered to BC Laboratories of Bakersfield, California (certification #1186) for analyses.

The groundwater samples were analyzed for:

- Benzene, Toluene, Ethyl Benzene and Xylene (BTEX) by EPA method 8260b
- Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA method 8260b
- Oxygenated Fuel Compound MTBE by EPA method 8260b

The results and detection limits for the above analyses are listed in Table 4 of Appendix A while the lab analytical results are presented in Appendix B.

As required under AB2886, the depth to groundwater data for the 1st Semiannual 2014 was submitted to GeoTracker on July 25, 2014 – confirmation number 3261526525. Laboratory data was submitted to GeoTracker on July 28, 2014 – confirmation number 4777864575.

3.0 FINDINGS AND DISCUSSION

3.1 Field Parameters

For the June 2014 event:

- Dissolved Oxygen (DO) ranged from 0.17 (W-A) to 1.64 (W-Bs).
- Electrical Conductivity (EC) ranged from 803 (W-Bs) to 1,352 (W-A).
- Oxygen Reduction Potential (ORP) ranged from -135 (W-A) to -50.1 (W-3s).
- pH ranged from 6.42 (W-A) to 7.05 (W-Bs).
- Temperature ranged from 20.7 °C (W-A) to 21.3 °C (W-1s).

Field parameters were collected while purging all monitoring wells except the five CMT™ wells. The field parameter results are shown in Table 5 of Appendix A.

3.2 Laboratory Analytical Data

Since the initiation of the Dual-Phase Extraction (DPE) remediation system (November 2011), the May 2012, November 2012, June 2013 and June 2014 groundwater monitoring events have reported historically low groundwater elevation levels, which is believed to be related to the elevated contaminant concentrations reported during these events. The December 2013 groundwater monitoring event reported the highest groundwater levels since the initiation of DPE and overall historical low contaminant concentrations in the core of the groundwater plume. Generally, concentrations slightly increased during the June 2014 groundwater monitoring event.

As shown in Figure 9, contaminant concentrations in the core of the plume tend to be elevated during low groundwater periods. The December 2013 event reported an increase in groundwater levels and a decrease in contaminant concentrations within the core of the groundwater plume while the June 2014 event reported a decrease in groundwater levels and an increase in contaminant concentrations.

The shallow wells less than 40 feet below ground surface were not sampled during the June 2014 event and have not been sampled since the DPE system was started in November 2011. It is anticipated that as groundwater levels rise, concentrations in the shallow wells will report decreased concentrations following extensive vadose zone remediation between 42 and 25 feet below grade surface.

Shallow Aquifer:

- CMT wells MW-4, MW-5, MW-6, MW-7, MW-8 were dry during the June 2014 groundwater monitoring event and were not sampled. CMT wells MW-105, MW-106, MW-107 and MW-108 did not contain a large enough water column to properly purge and sample. Theses shallow wells have not been sampled since prior to starting DPE

remediation in November 2011, making it difficult to assess the performance of the DPE system in these shallow wells.

- Shallow monitoring well W-1s reported the highest concentrations of TPH-g (320 µg/l) and shallow monitoring well W-Bs reported the highest concentration of benzene (26 µg/l) of all the wells sampled in the shallow aquifer. Contaminant concentrations in wells W-Bs and W-1s appear to be decreasing over time.
- The shallow aquifer TPH-g plume has historically appeared to be moving down-gradient over time, as suggested by the increasing concentrations in MW-107, which has been dry during the previous five (5) groundwater monitoring events. Concentrations in down-gradient well MW-207 and far down-gradient well W-3s appear to be decreasing, suggesting the shallow groundwater plume is slowly moving down gradient towards well CMT-7 while decreasing in concentration. However, the data is incomplete and further groundwater monitoring events will allow for a better evaluation of seasonal fluctuations.
- Monitoring wells W-1s and W-Bs reported a decrease in both TPH-G and benzene concentrations for the June 2014 groundwater monitoring event.
- Monitoring wells W-Es and W-3s were not sampled during the June 2014 groundwater monitoring event due to low groundwater levels.
- Figure 6 shows a contour map indicating GZA's interpretation of the shallow TPH-g plume in June 2014.

Intermediate Aquifer:

- Well W-1 reported the highest concentrations of TPH-g (25,000 µg/l) and well MW-207 reported the highest concentration of benzene (5,900 µg/l) in the intermediate aquifer. Contaminant concentrations in W-1 appear to be on an overall decreasing trend while concentrations in well MW-207 appear to be on a decreasing trend since June 2013.
- The core of the intermediate aquifer TPH-g plume appears to move around from one monitoring event to the next, as suggested by the historical fluctuation of the plume center between W-1, W-A, MW-104 and MW-205, with contaminant concentrations on an overall decreasing trend, both increasing and decreasing. Figure 7A and 7B contain a contour map indicating GZA's interpretation of the intermediate TPH-g and benzene plumes in June 2014, respectively.
- Remediation by DPE and air sparging in wells W-A and W-1 appears to have decreased the contaminant mass in the core of the plume in the vicinity of well W-A, as shown in Figures 7A and 7B. This is supported by the overall decreasing contaminant concentrations in intermediate core wells W-1, W-A and MW-104, which all reported an increase in contaminant concentrations for the June 2014 event. This increase in contaminant concentrations is attributed to the 7.76 foot decrease in the groundwater elevation since the December 2013 monitoring event. Figure 14 is a

graph depicting the decreasing contaminant trends in intermediate core wells W-1 and W-A.

- Concentrations in wells MW-205 and MW-207 appear to have stabilized and began decreasing since June 2013 while down gradient well MW-208 appears to be decreasing over time, suggesting the intermediate plume has stabilized.

Deep Aquifer:

- CMT™ monitoring well MW-308 reported the highest concentration of TPH-g (3,000 µg/l) and CMT™ monitoring well MW-308 reported the highest concentrations of benzene (1,300 µg/l) in the deep aquifer.
- Concentrations reported in the deep wells during the June 2014 event suggest that remediation is occurring in the core of the plume based on decreasing concentrations in core well MW-204. However unstable trends in wells MW-305, MW-307 and MW-308 make it difficult to understand what is occurring in the deep aquifer up-gradient and down-gradient of the contaminant core.
- Figure 8 contains a contour map indicating GZA's interpretation of the deep TPH-g plume in June 2014. The groundwater plume is localized in the vicinity of the former USTs/piping trenches and appears to be centered between wells MW-204 and MW-308.

Deepest Aquifer

- CMT™ well MW-304 reported an increase in TPH-g and benzene for the June 2014 monitoring event.
- CMT™ well MW-404 reported an increase in TPH-g and benzene for the June 2014 monitoring event.

Figures

- Figures 9A and 9B illustrate TPH-g and benzene concentrations and groundwater elevation versus time in well W-1s (located in the vicinity of the core of the contaminant plume). With the exception of events in 1995, 1997 and 2001 the contaminant concentrations exhibit a fairly stable trend. The graphs show an inverse relationship between groundwater elevation and concentrations. The three peaks evident correspond with low stands of groundwater and suggest that significant contaminant mass is present although decades have past since the original USTs were removed. The June 2014 monitoring event represents a near historical low concentration of TPH-g and benzene in this well despite the low groundwater elevation conditions.
- Figures 10A and 10B illustrate TPH-g and benzene concentrations and groundwater elevations versus time in well W-3s (located down/cross gradient of the core of the plume). The contaminant concentrations show an overall declining trend, despite several elevated spikes in concentrations in 1996, 1997, 1998 and 2003. These events

of elevated concentration do not show a correlation with low groundwater elevations, as was observed in W-1s. Since the start of remediation in November 2011, groundwater contaminant concentrations have been on a decreasing trend in this well. Well MW-3s was not sampled during the June 2014 groundwater monitoring event due to low groundwater levels.

- Figure 11A and 11B illustrate TPH-g and benzene concentrations versus time in well W-Bs (located down gradient of the core of the plume). The contaminant concentrations showed a rapid declining trend from 1995 thru 2003 but appear to be stable but fluctuating from 2003 thru April of 2011. A declining trend began in 2011 and continued into the June 2014 monitoring event.
- Figures 12 and 13: Cross Sections A-A' and B-B' illustrate the site's geology and the distribution of groundwater contaminants prior to (October 2011 event) and following remediation (June 2014 event). As shown, the site is underlain with an upper gravelly unit (Upper Unit) from the surface to approximately 35 to 45 feet bgs and a lower clay unit (Lower Unit) from 35/45 feet to approximately 65 feet bgs and appears to inhibit the migration of the contamination below this unit. According the *Final Corrective Action Plan* dated August 1st, 2007, the extent of the sites soil contamination lies in the groundwater smear zone between 20 and 45 or greater feet below grade surface (bgs).

4.0 REMEDIATION SYSTEM STATUS & EFFECTIVENESS

A dual phase extraction (DPE) and an air sparging remediation system were installed at the site and operations commenced in November 2011 and March 2012, respectively. The remedial action consists of dual phase extraction (DPE - soil vapor and groundwater) and air sparging in four (4) of the sites core wells:

- Vadose zone well EW-1 is used to remove soil vapor from the vadose zone
- Shallow depth well W-1s is used to remove soil vapor from the smear zone
- Intermediate depth well W-1 is used to remove soil vapor and groundwater and as of July 2013 can be utilized for air sparging
- Intermediate depth well W-A is used for air sparging and can be utilized to remove soil vapor and groundwater

According the *Final Corrective Action Plan* dated August 1st, 2007, the extent of the sites soil contamination lies in the groundwater smear zone between 20 and 45 or greater feet below grade surface (bgs). The sites general geology consists of an upper gravelly unit (Upper Unit) from the surface to approximately 35 to 45 feet bgs and a lower clay unit (Lower Unit) from 35/45 feet to approximately 65 feet bgs and appears to inhibit the migration of the contamination below this unit. Remediation wells W-1s and EW-1 are

screened within the Upper Unit (screened across 10 to 45 feet bgs). Remediation wells W-1 and W-A are screened within the Lower Unit (screened across 42 to 57.5 feet bgs). Therefore, the screen intervals of the four (4) remediation wells include both the Upper and Lower Units as well as the vertical extent of the soil contamination (20 to 45+ feet bgs).

A site map showing the distribution of the remediation wells and cross section lines is provided as Figure 3. A cross section illustrating the sites geology and remediation wells is provided as Figures 12 and 13.

4.1 System Operation

The extracted vapors are treated with a thermal oxidizer and then discharged to ambient air under permit from the Bay Area Air Quality Management District (BAAQMD). The treated water is discharged to the municipal sewer system under permit from the City of Livermore.

The groundwater extracted by DPE is initially separated from the vapor phase via a knockout tank, with groundwater residing in the tank and the vapor phase continues on to the thermal oxidizer for treatment. The water is then pumped from the tank to an air stripper column to remove volatile organic petroleum hydrocarbons. The vapors generated by the air stripper are plumbed back to the thermal oxidizer joining the DPE extracted vapors. The treated groundwater is plumbed to two (2) 2000 lbs. granulated activated carbon vessels in series after leaving the air stripper. The water is then monitored with an LEL sensor for contaminant levels while being discharged to the sewer system under associated permit requirements.

System operation commenced on November 15th, 2011 (soil vapor extraction only), in compliance with the Alameda County Environmental Health (ACEH) directive extension. Various system repairs and modifications were completed following the initial start-up and full operation of the DPE system (soil vapor extraction only) began on November 29th, 2011.

Modifications to DPE well W-1 were completed and groundwater extraction testing began on December 7th, 2011. On January 10th, 2012, Alan Wilcox from the City of Livermore met on-site to perform the groundwater discharge permit inspection. Upon issuance of the groundwater discharge permit, the DPE system began full operation and extraction and treatment of both groundwater and soil vapor on January 18th, 2012.

Both the DPE and air sparging systems have been in continuous operation since March 2012, except for minor repairs. Both the DPE and air sparge systems were shut down on May 12th, 2014 in anticipation of the 2nd Quarter 2014 groundwater monitoring event that was performed between June 16th and June 17th, 2014.

1st & 2nd Quarters 2014

The DPE system operated throughout the 1st and 2nd Quarters of 2014 except for the following reasons:

- February 25, 2014 thru March 18, 2014 – the DPE system is being operated in pulse mode and was off during this time period.
- April 1, 2014 thru April 15, 2014 – the DPE system is being operated in pulse mode and was off during this time period.
- April 28, 2014 thru May 9, 2014 – the DPE system is being operated in pulse mode and was off during this time period.
- May 12, 2014 thru June 26, 2014 – the DPE system was shut down for the 2nd Quarter 2014 groundwater monitoring event and for routine maintenance.

Starting in the 1st Quarter 2013 and continued thru the 1st and 2nd Quarters of 2014, DPE remediation was pulsed but focused on wells screened in the lower clay layer (W-1 and W-A) in order to reduce contaminant concentrations in this unit. Based on decreasing contaminant concentrations in wells screened within this layer and a decline in contaminant concentrations of the DPE vapor stream when extracting from intermediate wells W-1 and W-A, remediation of the lower clay layer is occurring.

4.2 Treatment System Data

As of the end of the 2nd Quarter 2014, the DPE system has removed a total of approximately 11,459.6 pounds, or 1863.3 gallons, of gasoline hydrocarbons as TPH-G in both vapor and groundwater extraction. During the 1st and 2nd Quarters of 2014, the DPE system operated for 2,300 hours and removed a total of approximately 408.8 pounds or 66.5 gallons of gasoline hydrocarbons as TPH-G.

Soil Vapor Extraction Mass Removal

As of the end of the 2nd Quarter 2014, the DPE system has removed approximately 11,305.7 pounds, or 1,838.3 gallons of strictly soil-vapor gasoline hydrocarbons as TPH-G since operation began on November 15th, 2011. Since the start of the 1st Quarter 2014, the DPE system removed approximately 364.4 pounds, or 59.3 gallons of soil vapor gasoline hydrocarbons as TPH-G.

These amounts do not include effluent vapors from the air stripper that are plumbed from the air stripper to the thermal oxidizer since none of the samples were collected during the operation of the air stripper. The mass of TPH-G treated by the thermal oxidizer is summarized in Table 7 of Appendix A.

Groundwater Extraction Mass Removal

Mass removal calculations are completed utilizing the results of monthly sampling of the influent groundwater stream for laboratory analyses. As of the end of the 2nd quarter 2014,

the DPE system had removed approximately 153.9 pounds, or 25 gallons, of gasoline hydrocarbons as TPH-G from groundwater extraction. Since the start of the 1st Quarter 2014, the DPE system removed approximately 44.4 pounds, or 7.2 gallons, of gasoline hydrocarbons as TPH-G. GZA believes the groundwater mass removal calculations are conservative given that the groundwater is highly agitated as it passes through approximately 90 feet of piping, a liquid-ring pump and a transfer pump prior to the sample collection port.

The mass of TPH-G removed by groundwater extraction and treated by air stripping and running through granular activated carbon is summarized in Table 6 of Appendix A.

Assumptions

- Average vapor concentrations used in the mass removal calculations assume that the daily concentration of TPH-G removed by the system is equivalent to the concentration of TPH-G sampled during the following bi-monthly event. For example: If analyses were performed twice a month (every 2 weeks), the average daily concentration for that two (2) week time period is assumed equivalent to the sample concentration of the sample collected from the sampling event at the end of the 2 week period.
- Daily airflow is assumed to be equivalent to the airflow reading from the following sampling event.
- Vapor concentrations are collected using a PID and data is recorded in parts per million (ppm) and correlated to laboratory results that are reported in milligrams per cubic meter (mg/m^3). When vapor samples were collected for laboratory analysis, a PID reading was collected directly from the sample and following various sampling events, the data was correlated and an equation was produced. For more information on data correlation, refer to Appendix E.
- The mass removed as vapor does not include vapor phase contaminants "stripped" from the groundwater in the air stripper as none of the vapor sampling occurred while the air stripper was operating, which occurs for approximately 90 minutes per day.
- Concentration of aqueous phase removal is based on actual analytical results taken from the line following the knockout drum and prior to the first groundwater storage tank. The bi-monthly analytical results are assumed constant for the previous two (2) week period. It is likely the concentrations, thus the mass removed from the extraction wells, is higher at the well than is measured at the sampling point for the following reasons:
  - The groundwater extraction is achieved by high vacuum and soil vapor extraction from the wells, which result in withdraws of both soil vapor and groundwater. This air/water mixture is transported through 90 feet of piping to the DPE unit where the two phases are separated in the knockout drum. So in essence, the piping system acts as a linear air stripper causing the VOCs in the water to transfer into the vapor phase.

4.3 Future DPE Operation

Based on groundwater monitoring data and elevated contaminant concentrations being removed from the lower clay layer, GZA recommends continued pulse-mode operation of the DPE system and air sparging system during the 3rd and 4th Quarters of 2014. The pulse mode will continue as follows:

1. Two weeks remediating the lower clay unit by operating groundwater and vapor extraction from wells W-A and W-1, followed by;
2. Two weeks remediating the upper gravel unit (vadose zone) by operating core vapor extraction well W-1s while the air sparging system operates in wells W-1 and W-A.

If concentrations in the upper gravel unit are insignificant, GZA recommends that the system be shut down during this two week period and operate the lower clay unit wells during the other two weeks of the month.

5.0 CONCLUSIONS & RECOMMENDATIONS

Conclusions

1. Elevated concentrations of BTEX and TPH-g are present in a laterally limited (probably less than 150 foot radius in the down gradient direction) groundwater plume that is centered near W-1/W-1s/CMT-4, with the core between the vicinity CMT™ Cluster 7, CMT™ Cluster 5 and wells W-1/W-1s/CMT-4.
2. The groundwater plume appears to attenuate to the northeast at CMT™ Cluster 6, to the northwest at W-3s and W-3. The extent of the plume is unknown to the north and south.
3. TPH-G and BTEX concentrations in shallow monitoring wells W-1s, W-Bs and W-3s appear to be on decreasing contaminant trends, as shown in Figures 9A, 9B, 10A, 10B, 11A & 11B.
4. Remediation by DPE and air sparging in wells W-A and W-1 appears to have decreased the contaminant mass in the core of the plume, as shown in Figures 7, 8 and 14. This is supported by the overall decreasing contaminant concentrations in intermediate core wells W-1, W-A and MW-104.
5. Concentrations in wells MW-205 and MW-207 appear to have stabilized and began decreasing since June 2013 while down gradient well MW-208 appears to be decreasing over time, suggesting the intermediate plume has stabilized.
6. Wells MW-205, MW-207 and MW-208 may be outside of the zone of influence of the DPE system, however additional data would be needed to confirm this.
7. Concentrations reported in the deep wells during the June 2014 event suggest that remediation is occurring in the core of the plume based on decreasing concentrations in core well MW-204. However, unstable trends in wells MW-305, MW-307 and

MW-308 make it difficult to understand what is occurring in the deep aquifer up-gradient and down-gradient of the contaminant core.

8. Increasing contaminant concentrations in the site's deep wells (MW-304 & MW-404) is attributed to the historically low groundwater, drawing the contaminant smear zone closer to these wells.
9. Overall the contaminant concentrations at the site are following a decreasing trend, as shown in the graphs included in this report.
10. It appears that there is a direct relationship between groundwater elevation and contaminant concentrations. It is hypothesized that the low groundwater levels during the May 2012, November 2012, June 2013 and June 2014 groundwater monitoring event may be responsible for the high concentrations reported in some wells near the top of groundwater during those events. Groundwater levels during the December 2013 groundwater monitoring event had risen to average levels and in turn contaminant concentrations decreased overall. Continued sampling will allow for further evaluation of this relationship.

Recommendations

1. Continue groundwater monitoring as directed by Alameda County Environmental Health in their most recent email dated October 6th, 2011.
2. In the event that the groundwater elevation rises enough to allow for sampling of the shallow CMT well intervals (MW-4, MW-5/105, MW-6/106, MW-7/107 & MW-8/108), we recommend that the opportunity be taken at its soonest event.
3. It is recommended that the DPE system operate in a pulse mode, as discussed in Section 4.3 of this report.
4. In consideration of the Low Threat Closure Policy – Path to Closure document dated February 25, 2014; GZA recommends continuing the implementation of the Corrective Action Plan (CAP) and operating the Dual Phase Extraction (DPE) and air sparging systems thru the 2nd Quarter of 2015 followed by 6 months of verification monitoring. Following the 6 months of verification monitoring, GZA will assess whether further remediation is necessary.

6.0 LIMITATIONS

This report was prepared in accordance with the generally accepted standard of care and practice in effect at the time Services were rendered. It should be recognized that definition and evaluation of environmental conditions is an inexact science and that the state or practice of environmental geology/hydrology is changing and evolving and that standards existing at the present time may change as knowledge increases and the state of the practice continues to improve. Further, that differing subsurface soil characteristics can be experienced within a small distance and therefore cannot be known in an absolute sense. All conclusions and recommendations are based on the available data and information.

The tasks proposed and completed during this project were reviewed and approved by the local regulatory agency for compliance with the law. No warranty, expressed or implied, is made.

7.0 SIGNATURES & CERTIFICATION

This report was prepared by:

Andrew Dorn, B.Sc. Geology
Staff Geologist
California GIT (#411)

This report was prepared under the direction of:

Raynold I. Kablanow II, PhD
PG and CHG

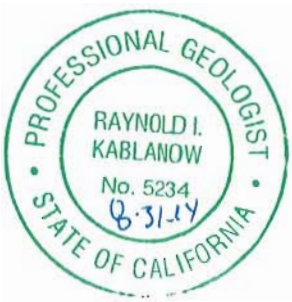
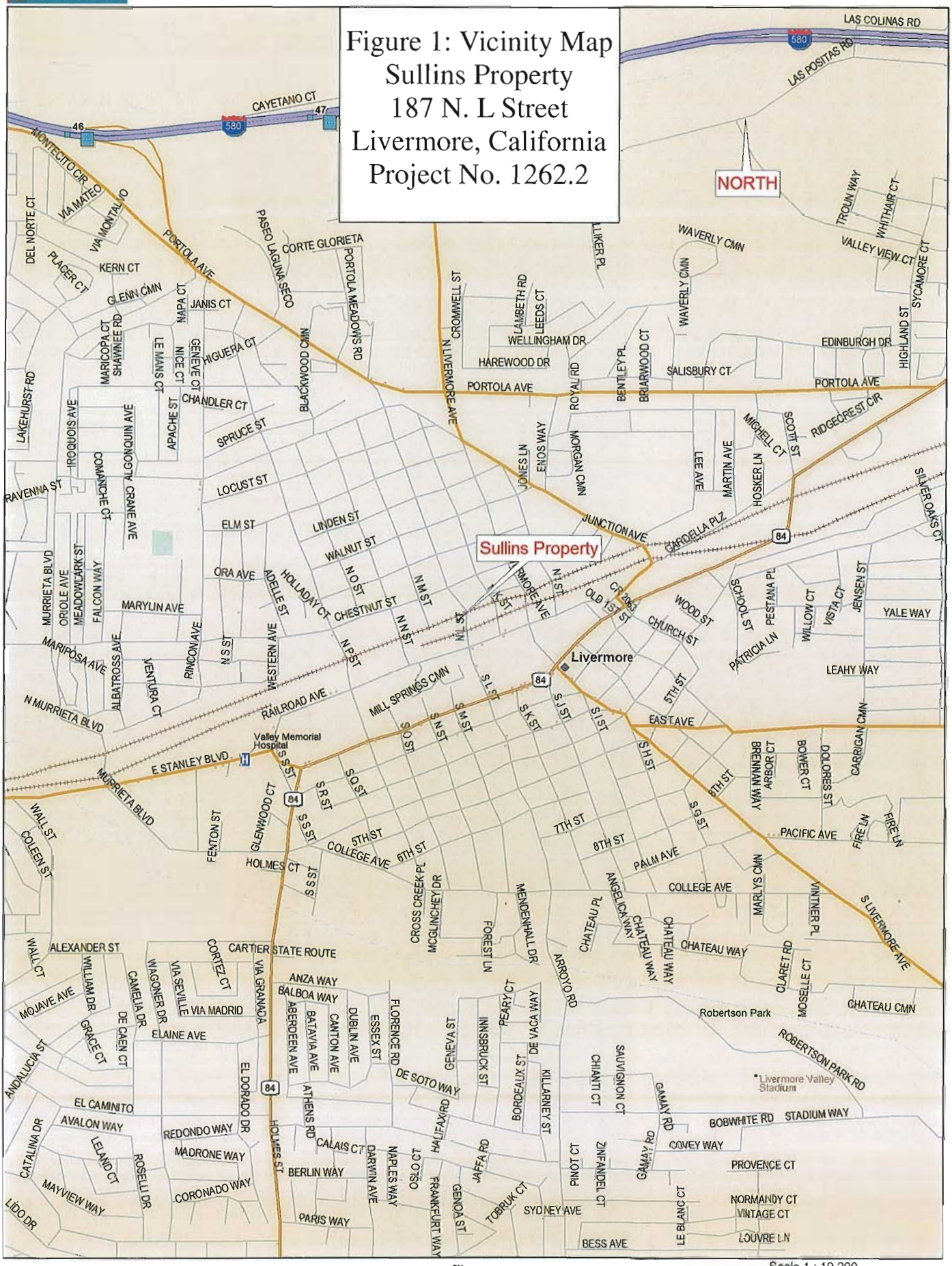
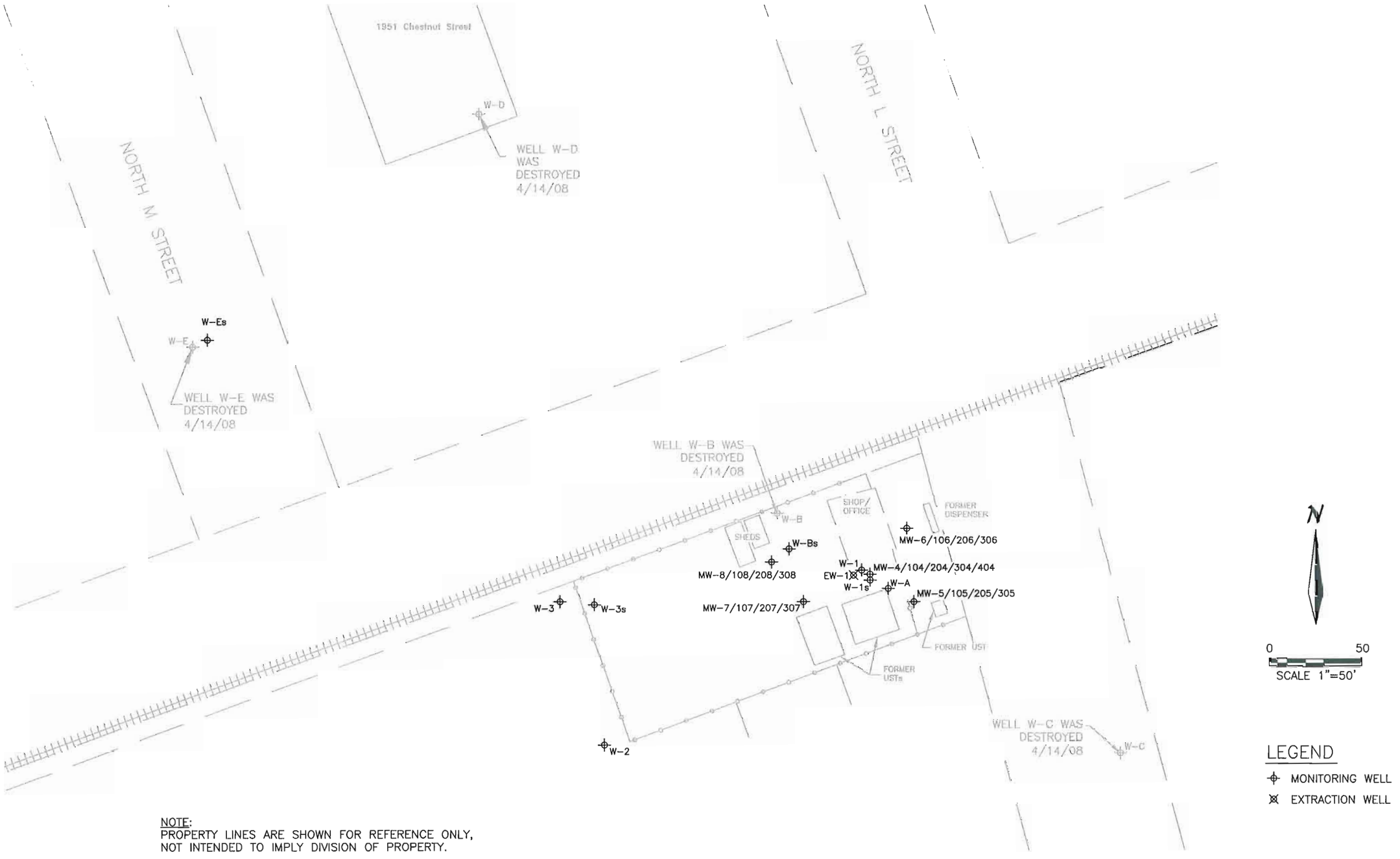


Figure 1: Vicinity Map
Sullins Property
187 N. L Street
Livermore, California
Project No. 1262.2





NOTE:
PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY, NOT INTENDED TO IMPLY DIVISION OF PROPERTY.

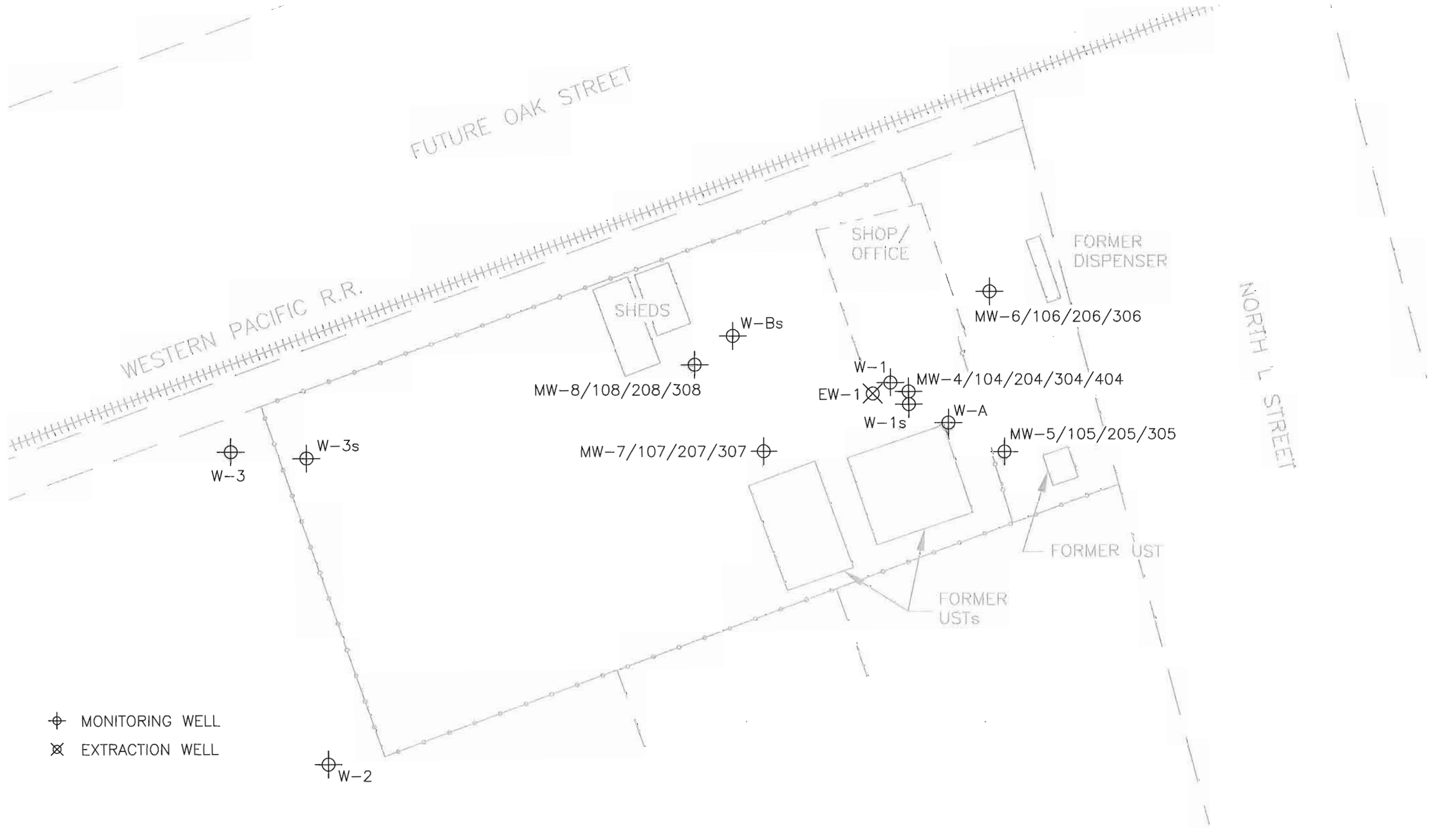
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

By:	AD
Job No:	1262.2 Date: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-03-13

GROUND ZERO ANALYSIS, INC.

FIGURE 2: SITE MAP

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



NOTE:
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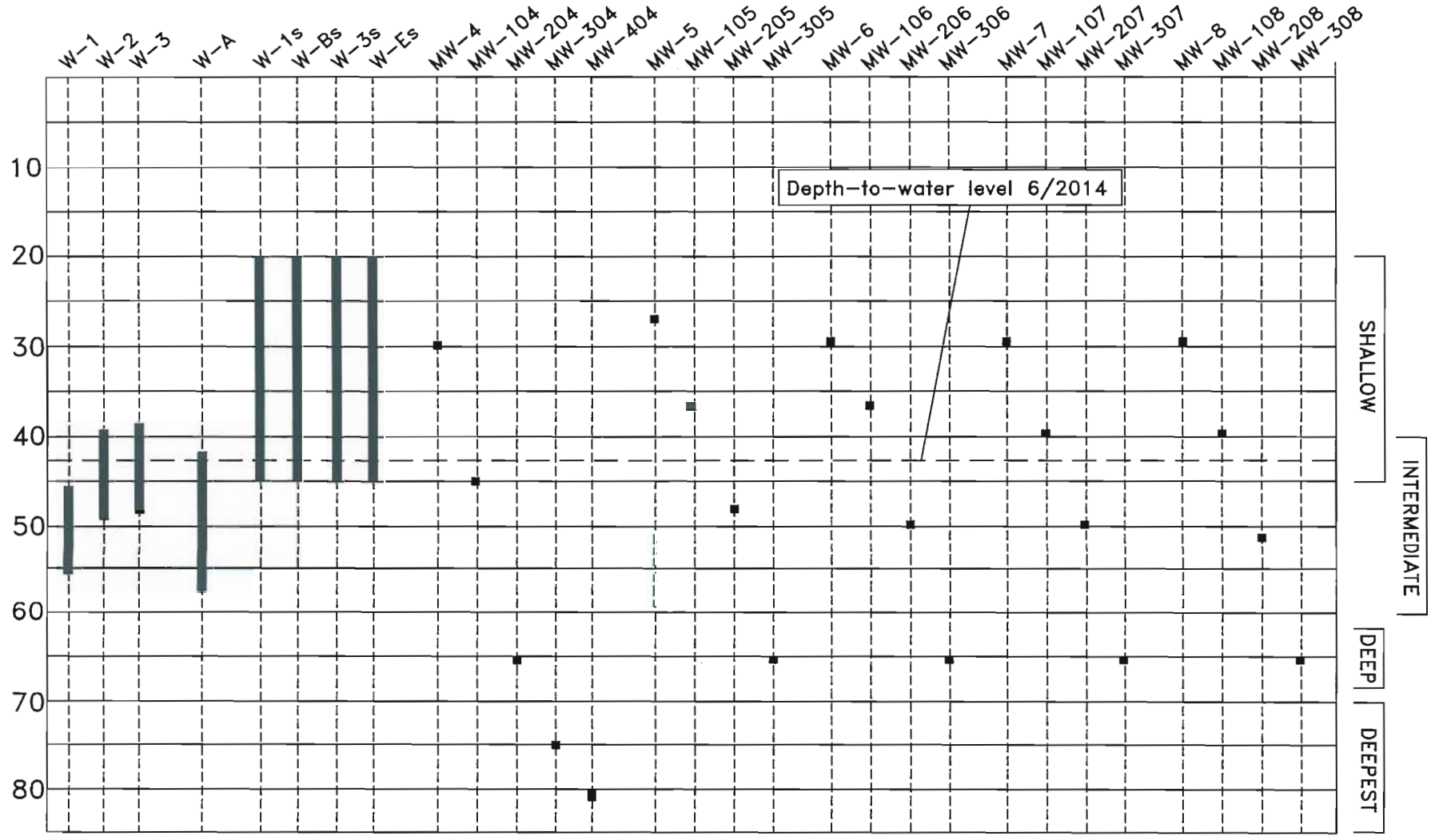
By:	AD
Job No:	1262.2 Date: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-03-13

GROUND ZERO ANALYSIS, INC.

FIGURE 3: SITE DETAIL MAP

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA

Figure 4:
Well Screened
Interval Diagram



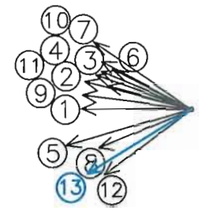
Sullins
187 North L Street
Livermore, CA

Ground Zero Analysis, Inc.

7/23/14

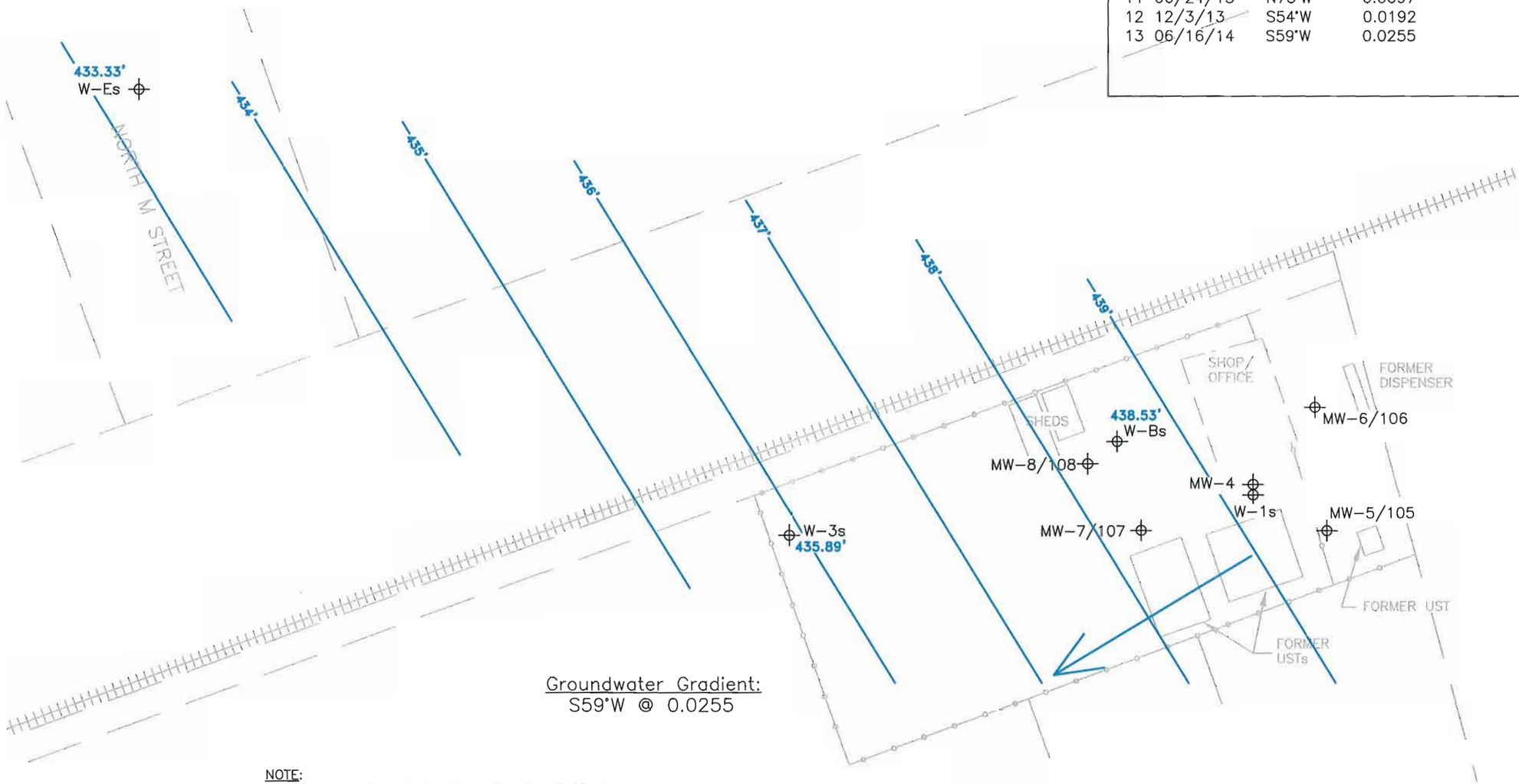
	DATE	BEARING	GRADIENT
1	04/29/04	WEST	0.019
2	07/07/06	N76°W	0.019
3	10/16/06	N68°W	0.014
4	04/17/07	N71°W	0.016
5	12/19/07	S74°W	0.033
6	04/07/08	N64°W	0.012
7	04/08/11	N56°W	0.0221
8	10/25/11	S68°W	0.0129
9	05/30/12	N82°W	0.0193
10	11/19/12	N63°W	0.0153
11	06/24/13	N75°W	0.0097
12	12/3/13	S54°W	0.0192
13	06/16/14	S59°W	0.0255

ROSE DIAGRAM



0.001 0.01 0.1 1

GROUNDWATER GRADIENT FT/FT



N

0 50

SCALE 1"=50'

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- NA DATA NOT AVAILABLE

GW BEARING DETERMINED USING W–Es, W–3s and W–Bs.

GROUNDWATER ELEV. 438.53'

CONTOUR INTERVAL = 1.0 FOOT

Groundwater Gradient:
S59°W @ 0.0255

NOTE:
PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY, NOT INTENDED TO IMPLY DIVISION OF PROPERTY.

STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD–CLYDE CONSULTANTS

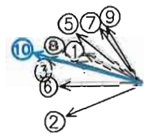
By:	AD
Job No:	1262.2 Date: 07–22–14
Scale:	1" = 50 feet
File:	12622 Graphics 6–16–14

GROUND ZERO ANALYSIS, INC.

FIGURE 5A: GROUNDWATER GRADIENT MAP
SHALLOW WELLS
ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA

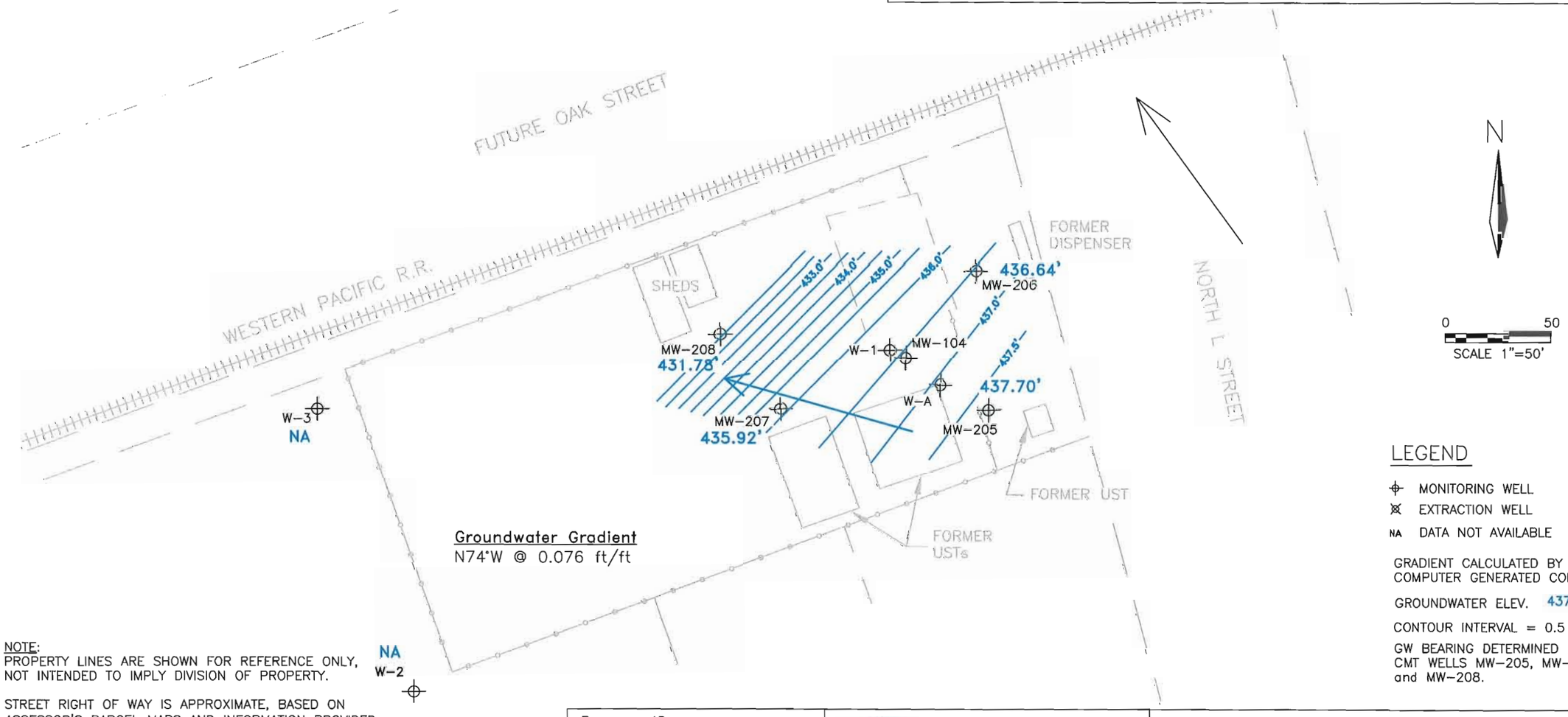
	DATE	BEARING	GRADIENT
1	10/16/06	N63°W	0.012
2	04/17/07	S68°W	0.022
3	12/19/07	N76°W	0.04
4	04/07/08	NORTHWEST	VARIABLE
5	10/25/11	N53°W	0.025
6	05/30/12	S89°W	0.020
7	11/19/12	N36°W	0.015
8	06/24/13	N73°W	0.014
9	12/03/13	N32°W	0.013
10	06/16/14	N74°W	0.076

ROSE DIAGRAM



0.001 0.01 0.1 1

GROUNDWATER GRADIENT FT/FT



Groundwater Gradient
N74°W @ 0.076 ft/ft

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- NA DATA NOT AVAILABLE

GRADIENT CALCULATED BY COMPUTER GENERATED CONTOURS

GROUNDWATER ELEV. 437.70'

CONTOUR INTERVAL = 0.5 FEET

GW BEARING DETERMINED USING CMT WELLS MW-205, MW-206 and MW-208.

NOTE:
PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY, NOT INTENDED TO IMPLY DIVISION OF PROPERTY.

NA W-2

STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

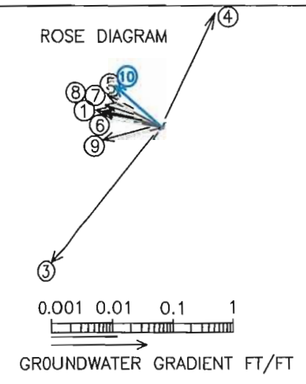
WELLS W-A & W-1 WERE LEFT OUT OF GRADIENT CALCULATIONS DUE TO ANOMALOUS VALUES AND MODIFICATION TO WELL TOP

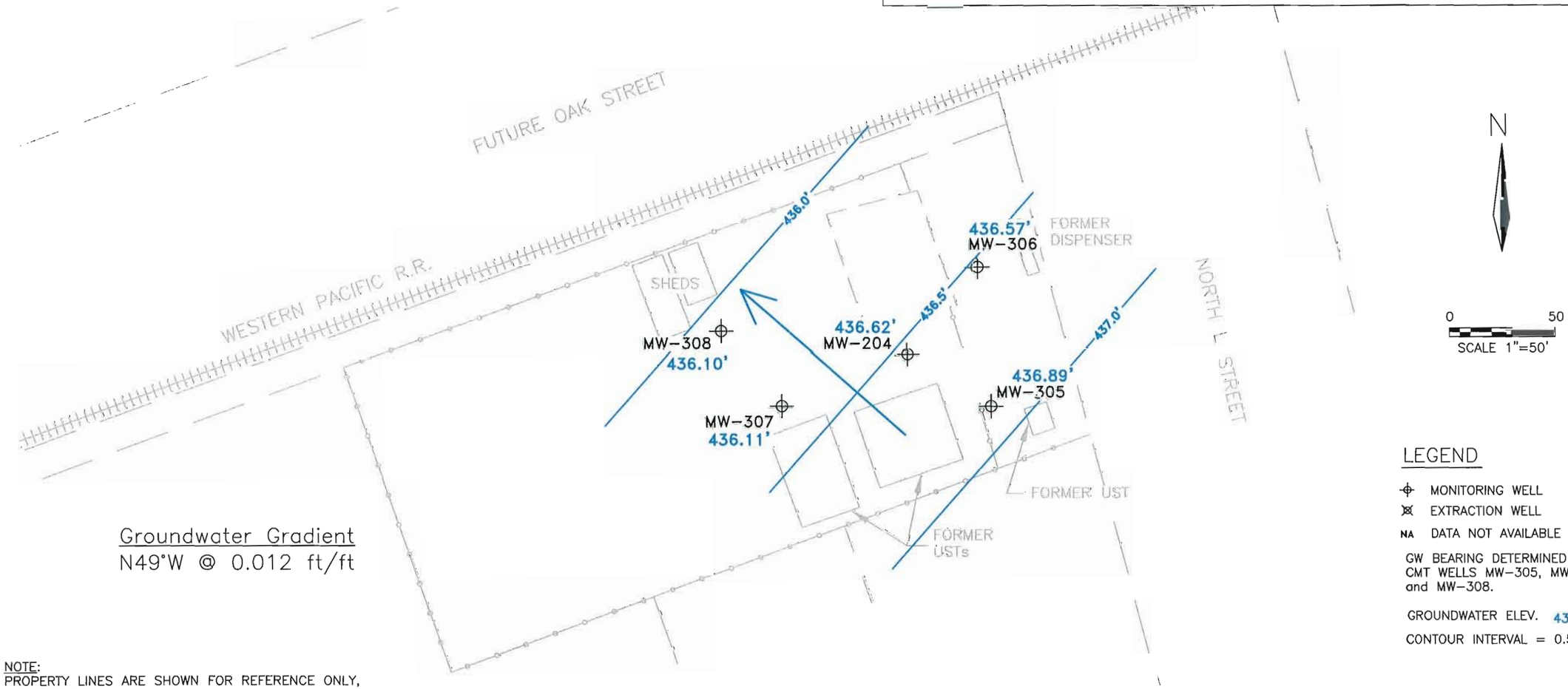
By:	AD
Job No:	1262.2 Date: 07-22-14
Scale:	1" = 50 feet
File:	12622 Graphics 06-16-14

GROUND ZERO ANALYSIS, INC.

FIGURE 5B: GROUNDWATER GRADIENT MAP INTERMEDIATE WELLS
ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA

	DATE	BEARING	GRADIENT
1	10/16/06	N78°W	0.0140
2	04/17/07	UNDETERMINED	
3	12/19/07	S39°W	0.1800
4	04/07/08	N26°E	0.1000
5	10/25/11	N64°W	0.0114
6	05/30/12	N79°W	0.0100
7	11/19/12	N72°W	0.0089
8	06/24/13	N78°W	0.0091
9	12/03/13	S75°W	0.010
10	06/16/14	N49°W	0.012





Groundwater Gradient
N49°W @ 0.012 ft/ft

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- NA DATA NOT AVAILABLE

GW BEARING DETERMINED USING CMT WELLS MW-305, MW-307 and MW-308.

GROUNDWATER ELEV. 436.89'

CONTOUR INTERVAL = 0.5 FEET

NOTE:
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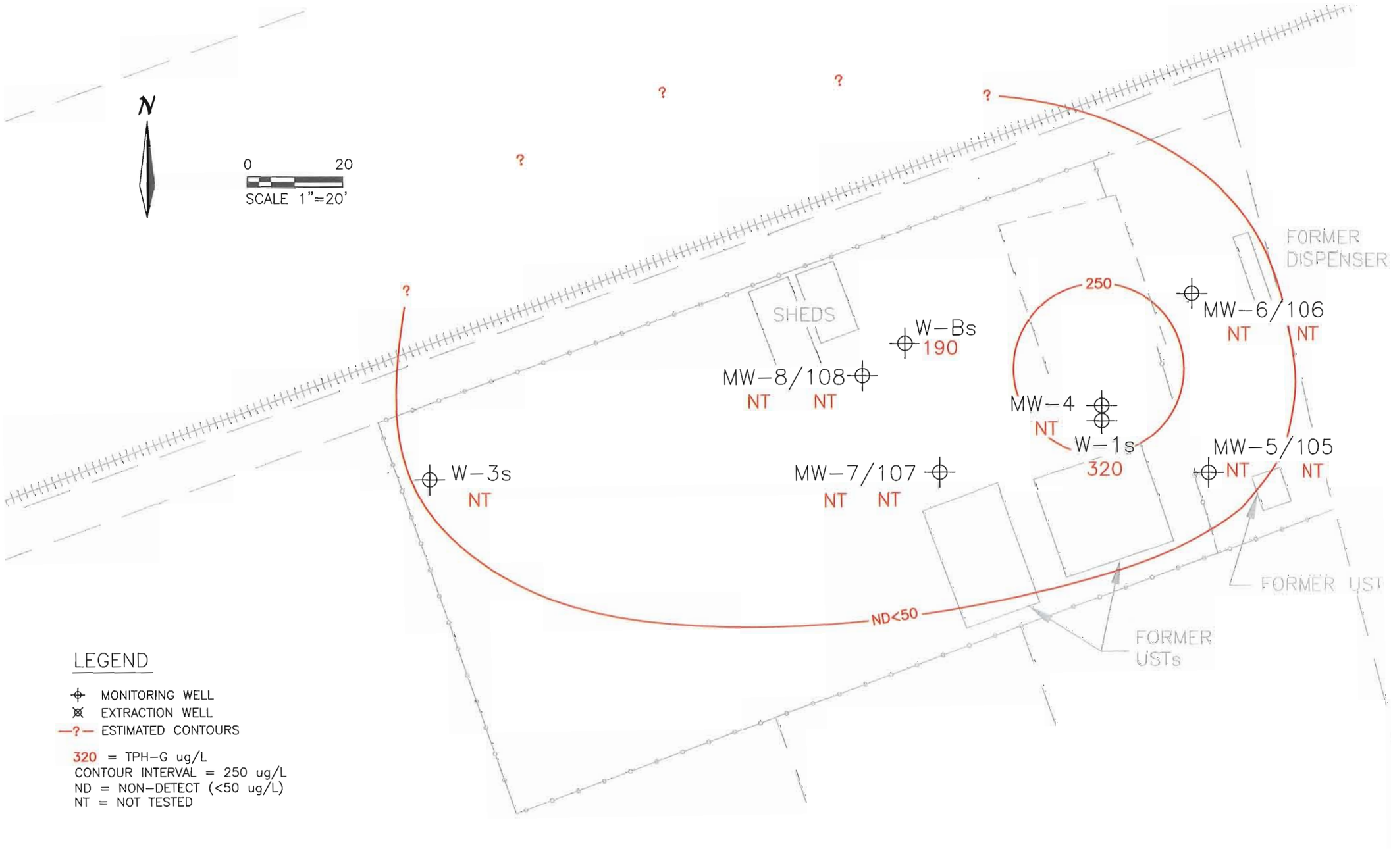
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

By:	AD
Job No:	1262.2 Date: 07-22-14
Scale:	1" = 50 feet
File:	12622 Graphics 06-16-14

GROUND ZERO ANALYSIS, INC.

FIGURE 5C: GROUNDWATER GRADIENT MAP DEEP WELLS
ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



LEGEND

- ⊕ MONITORING WELL
- ⊠ EXTRACTION WELL
- —?— ESTIMATED CONTOURS

320 = TPH-G ug/L
CONTOUR INTERVAL = 250 ug/L
ND = NON-DETECT (<50 ug/L)
NT = NOT TESTED

NOTE:
PROPERTY LINES ARE SHOWN FOR REFERENCE ONLY, NOT INTENDED TO IMPLY DIVISION OF PROPERTY.

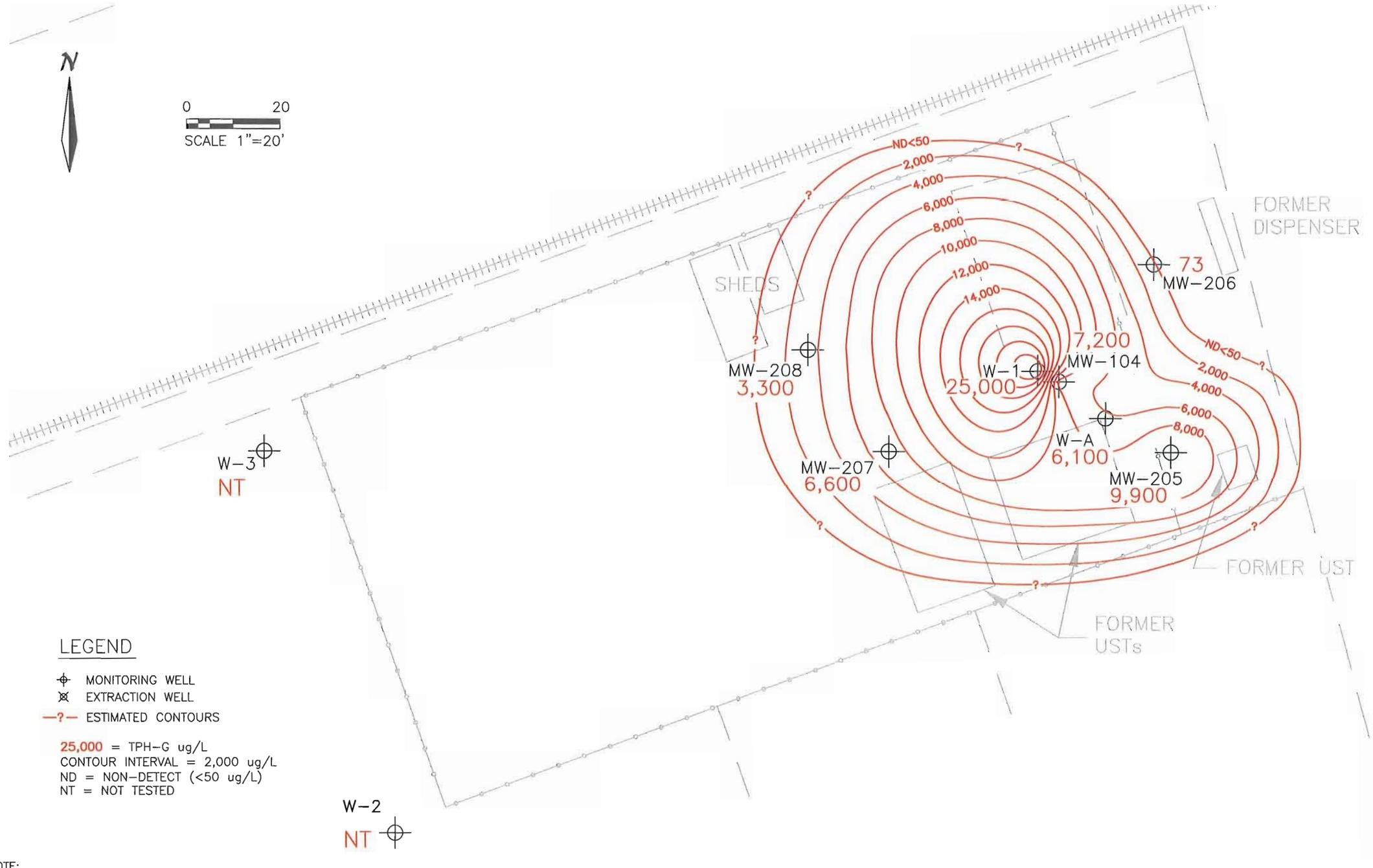
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

By:	AD
Job No:	1262.2 Date: 7-22-14
Scale:	1" = 50 feet
File:	12622 Graphics 06-16-14

GROUND ZERO ANALYSIS, INC.

FIGURE 6: SHALLOW WELL TPH-G CONCENTRATIONS

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



LEGEND

- ⊕ MONITORING WELL
- ⊠ EXTRACTION WELL
- —?— ESTIMATED CONTOURS

25,000 = TPH-G ug/L
CONTOUR INTERVAL = 2,000 ug/L
ND = NON-DETECT (<50 ug/L)
NT = NOT TESTED

NOTE:
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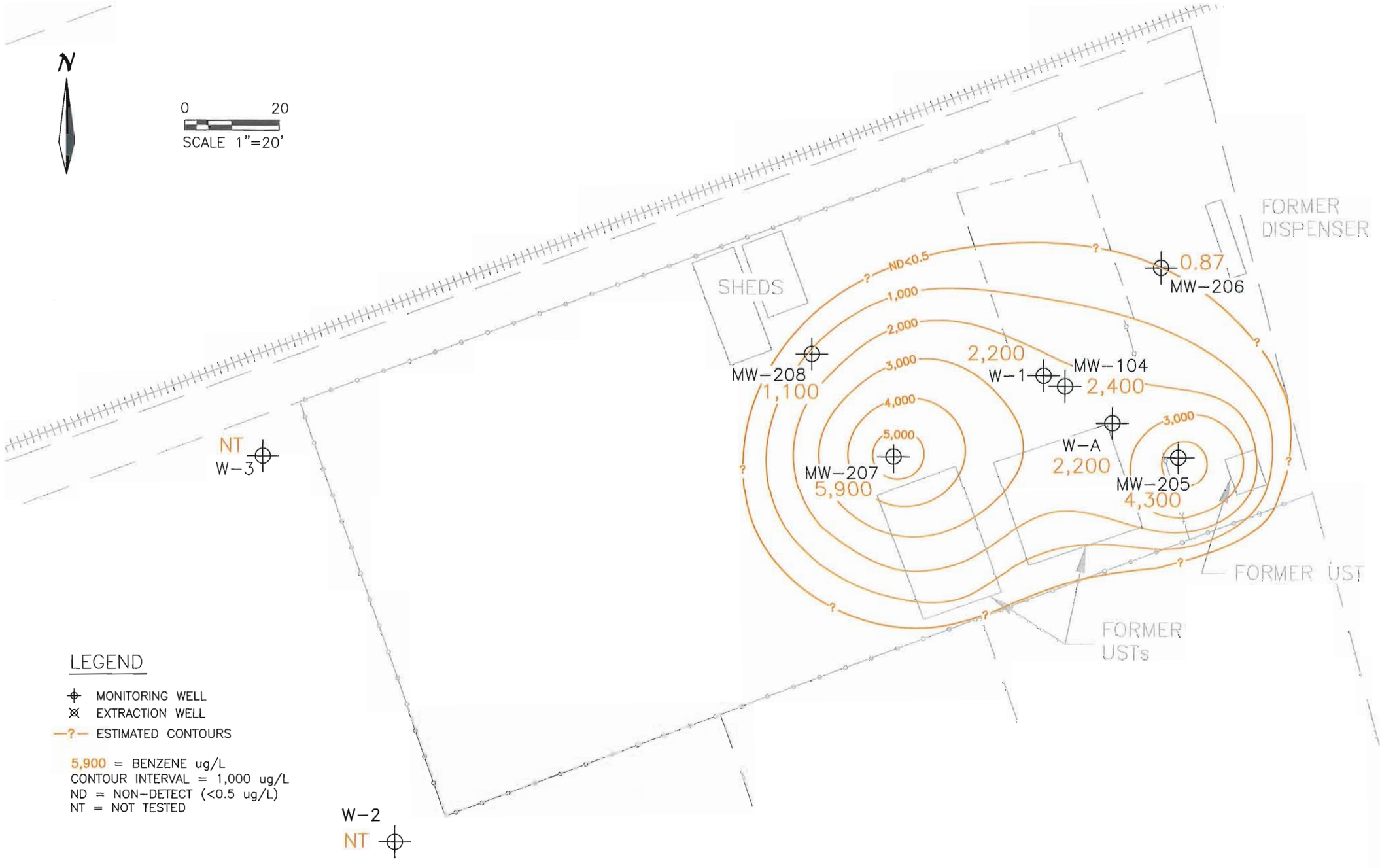
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

By:	AD
Job No:	1262.2 Date: 06-16-14
Scale:	1" = 50 feet
File:	12622 Graphics 6-16-14

GROUND ZERO ANALYSIS, INC.

FIGURE 7A: INTERM. WELL TPH-G CONCENTRATIONS

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



LEGEND

- MONITORING WELL
- EXTRACTION WELL
- —?— ESTIMATED CONTOURS

5,900 = BENZENE ug/L
CONTOUR INTERVAL = 1,000 ug/L
ND = NON-DETECT (<0.5 ug/L)
NT = NOT TESTED

NOTE:
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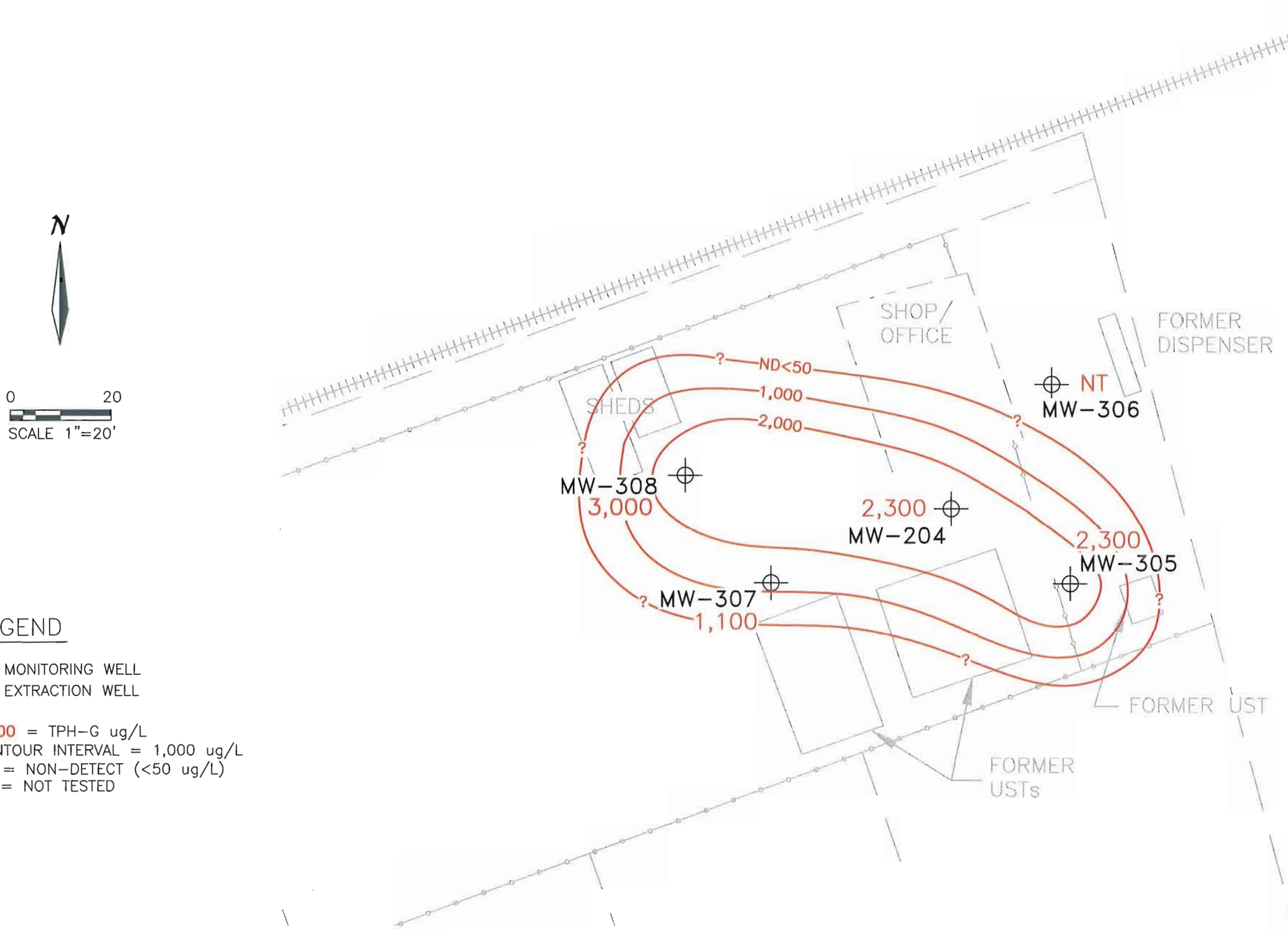
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

By:	AD
Job No:	1262.2 Date: 07-22-14
Scale:	1" = 50 feet
File:	12622 Graphics 6-16-14

GROUND ZERO ANALYSIS, INC.

FIGURE 7B: INTERM. WELL BENZENE CONCENTRATIONS

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



LEGEND

- ⌖ MONITORING WELL
- ⊠ EXTRACTION WELL

3,000 = TPH-G ug/L
CONTOUR INTERVAL = 1,000 ug/L
ND = NON-DETECT (<50 ug/L)
NT = NOT TESTED

NOTE:
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STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

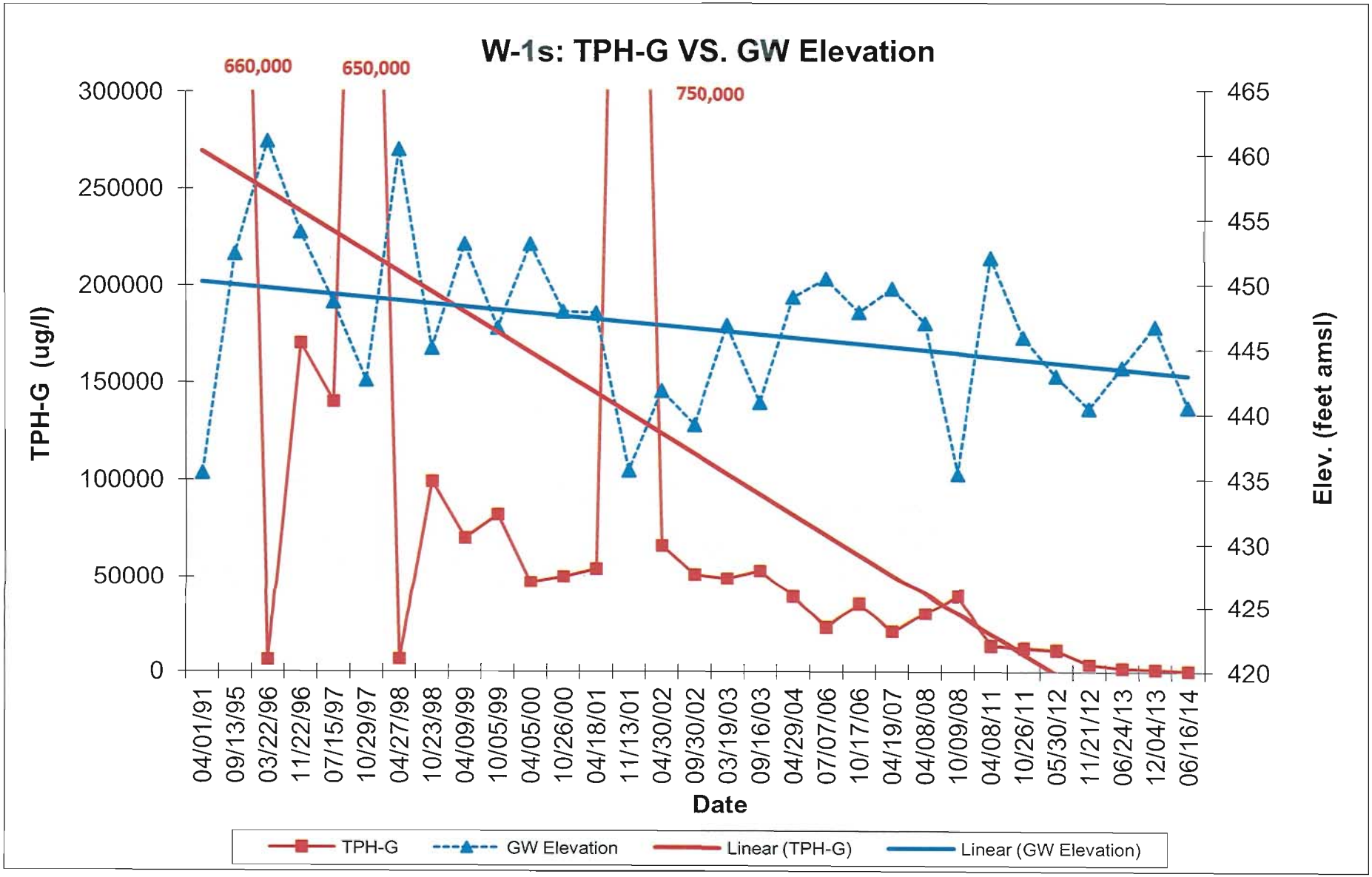
By:	AD
Job No:	1262.2 Date: 07-22-14
Scale:	1" = 50 feet
File:	12622 Graphics 6-16-14

GROUND ZERO ANALYSIS, INC.

FIGURE 8: DEEP WELL TPH-G CONCENTRATIONS

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA

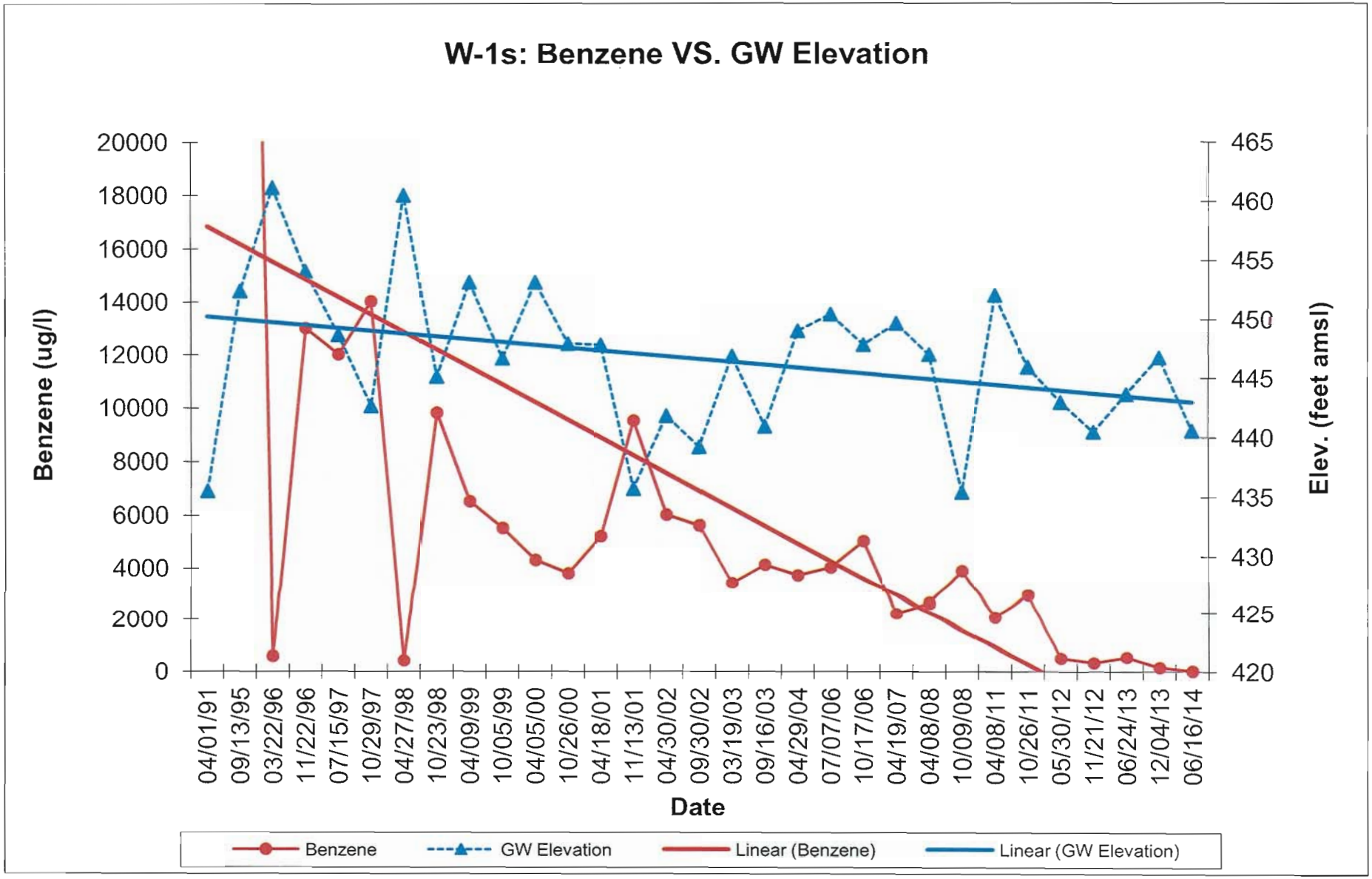
Figure 9A
Sullins
187 N.L Street
Livermore, CA



Ground Zero Analysis, Inc.
1262 gwad

7/24/2014

Figure 9B
Sullins
187 N.L Street
Livermore, CA



Ground Zero Analysis, Inc.
1262 gwad

7/24/2014

Figure 10A
Sullins
187 N.L Street
Livermore, CA

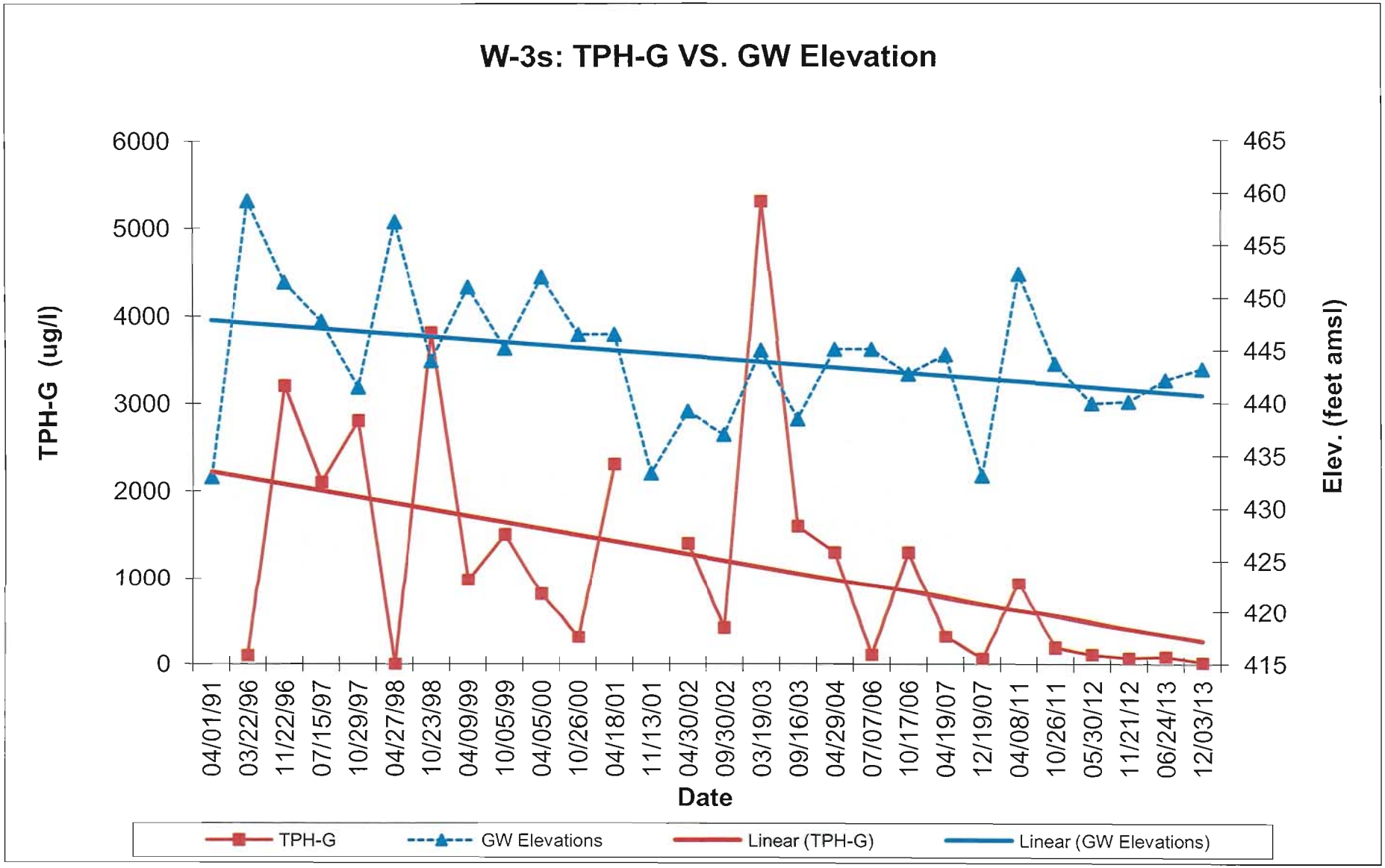


Figure 10B
Sullins
187 N.L Street
Livermore, CA

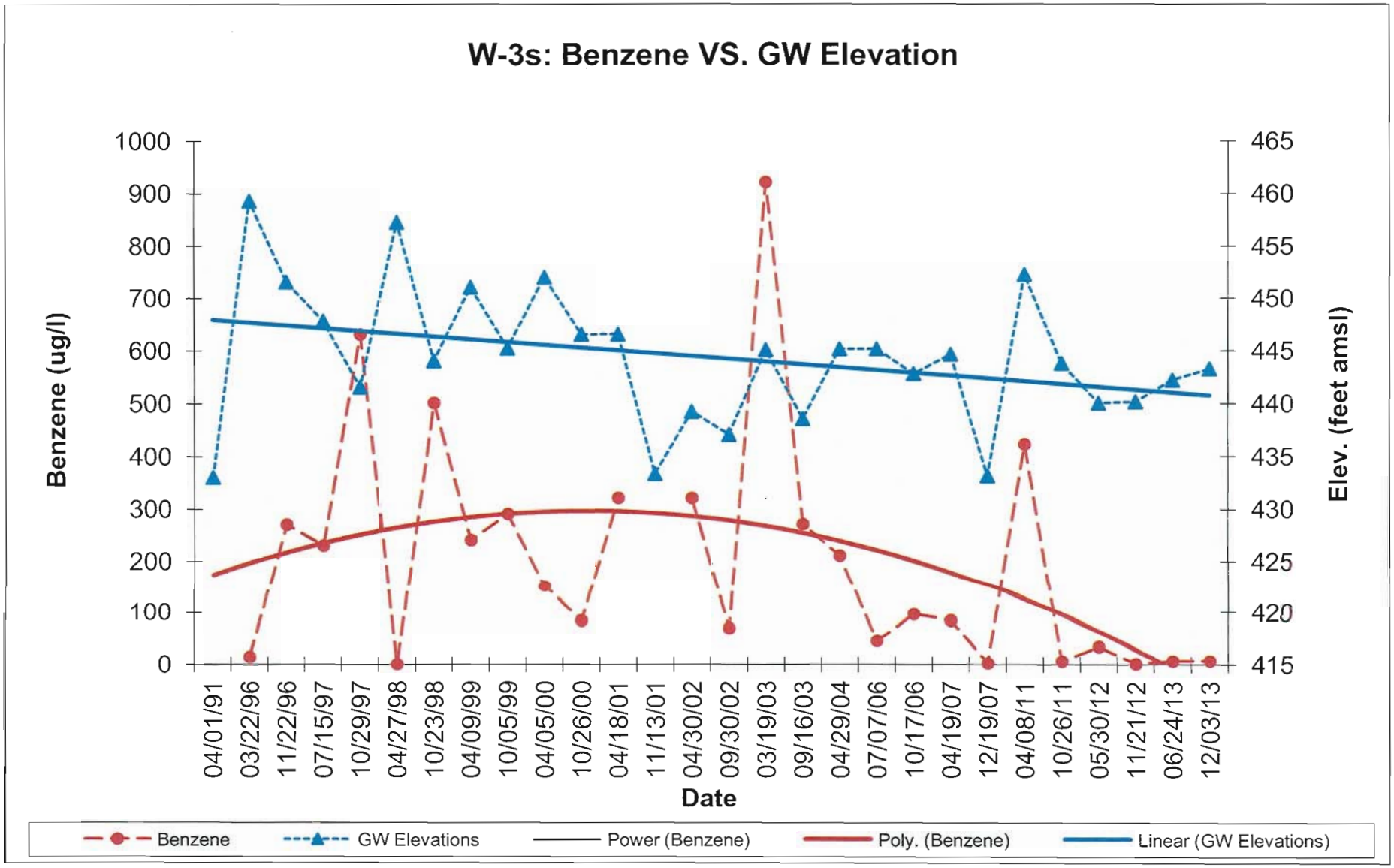
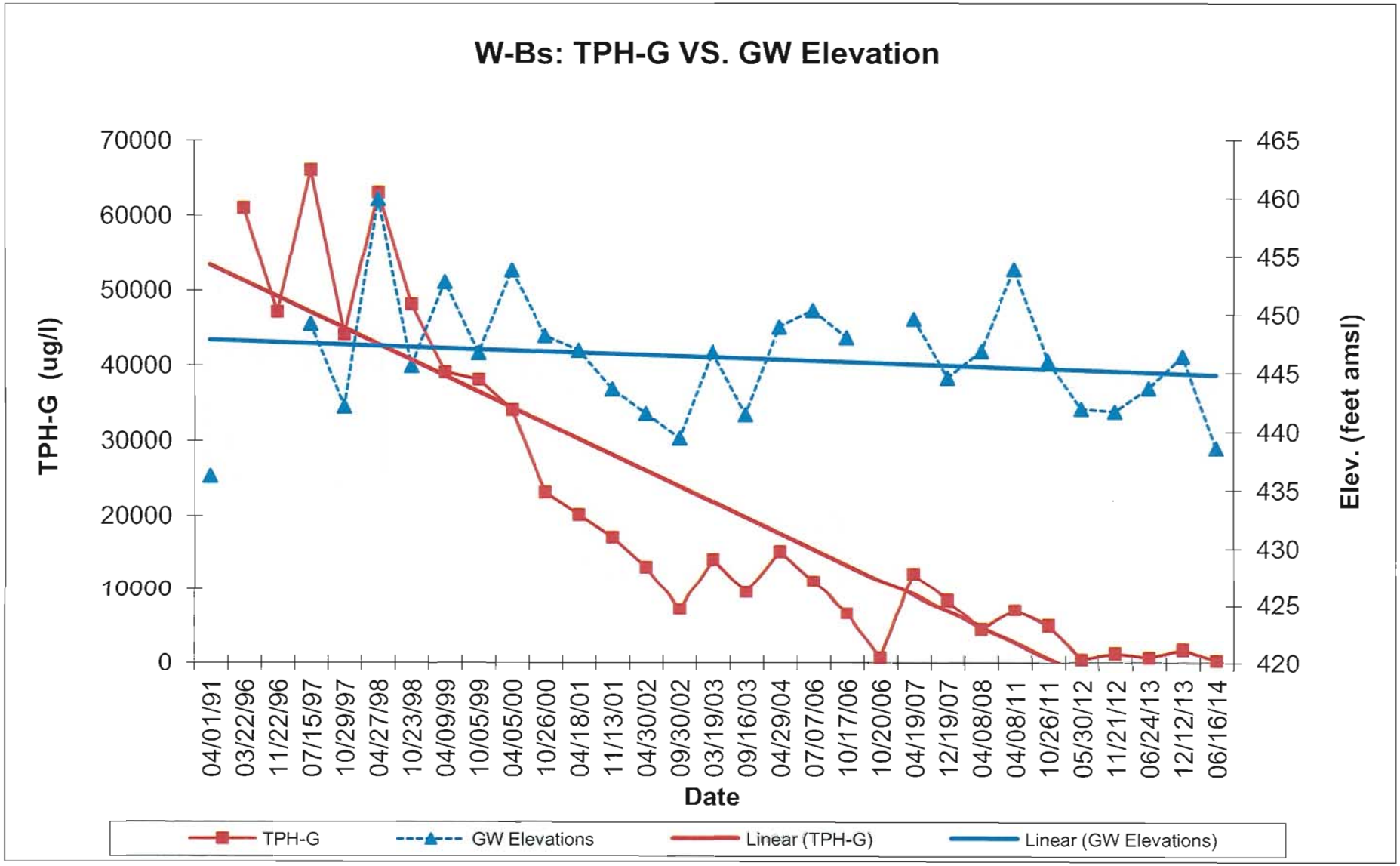


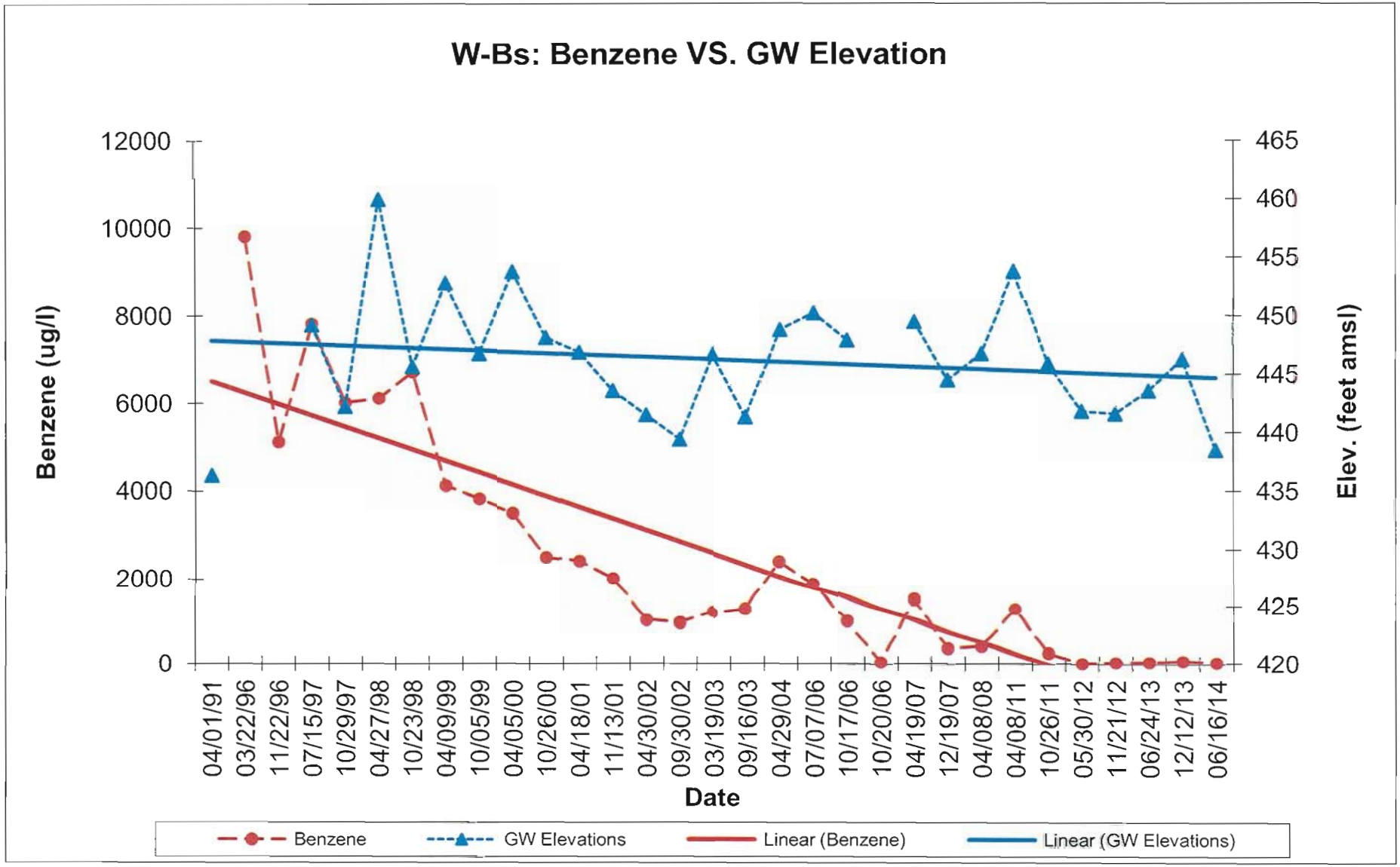
Figure 11A
Sullins
187 N.L Street
Livermore, CA



Ground Zero Analysis, Inc.
1262 gwad

7/24/2014

Figure 11B
Sullins
187 N.L Street
Livermore, CA



Ground Zero Analysis, Inc.
1262 gwad

7/24/2014

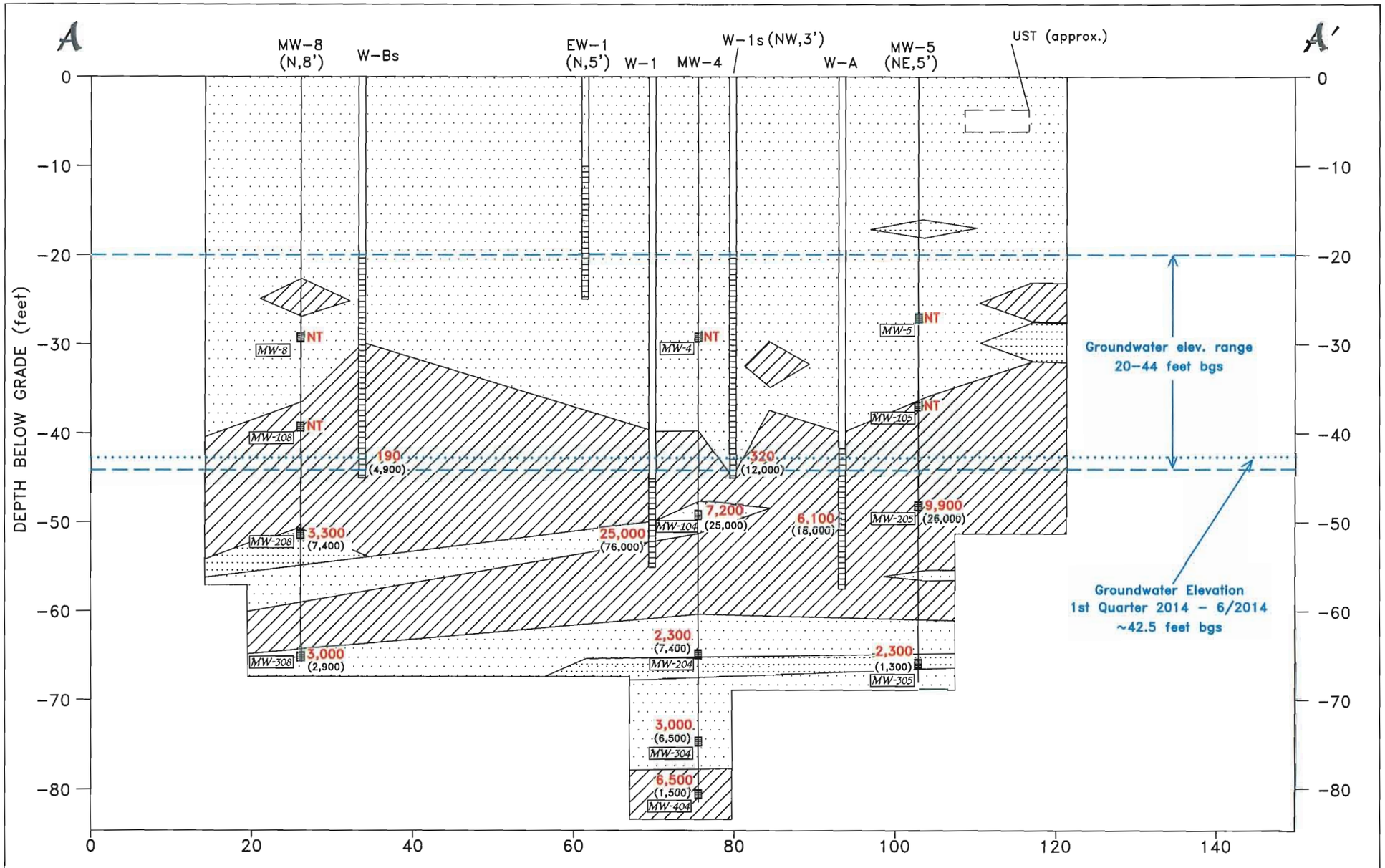


Figure 12
Cross Section A – A'
With TPH–G Soil plume
Arrow Rentals
187 N L Street
Livermore, CA
Project No.: 1262.2

Ground Zero Analysis, Inc. 7/22/14

LEGEND

Scale as Indicated.

(25,000) = Groundwater TPH–G Concentration (mg/kg)– October 2011 – Prior to DPE Remediation

6,500 = Groundwater TPH–G Concentration (mg/kg)

NT = Not Tested

MW-108 = CMT well screen section

(N,5') = Boring projection onto section (direction, distance)

GRAVELLY UNITS UNITS (Includes sandy gravels,silty gravels, clayey gravels)

FINE GRAINED UNITS (Includes silts and clays, gravelly clays)

SAND UNITS

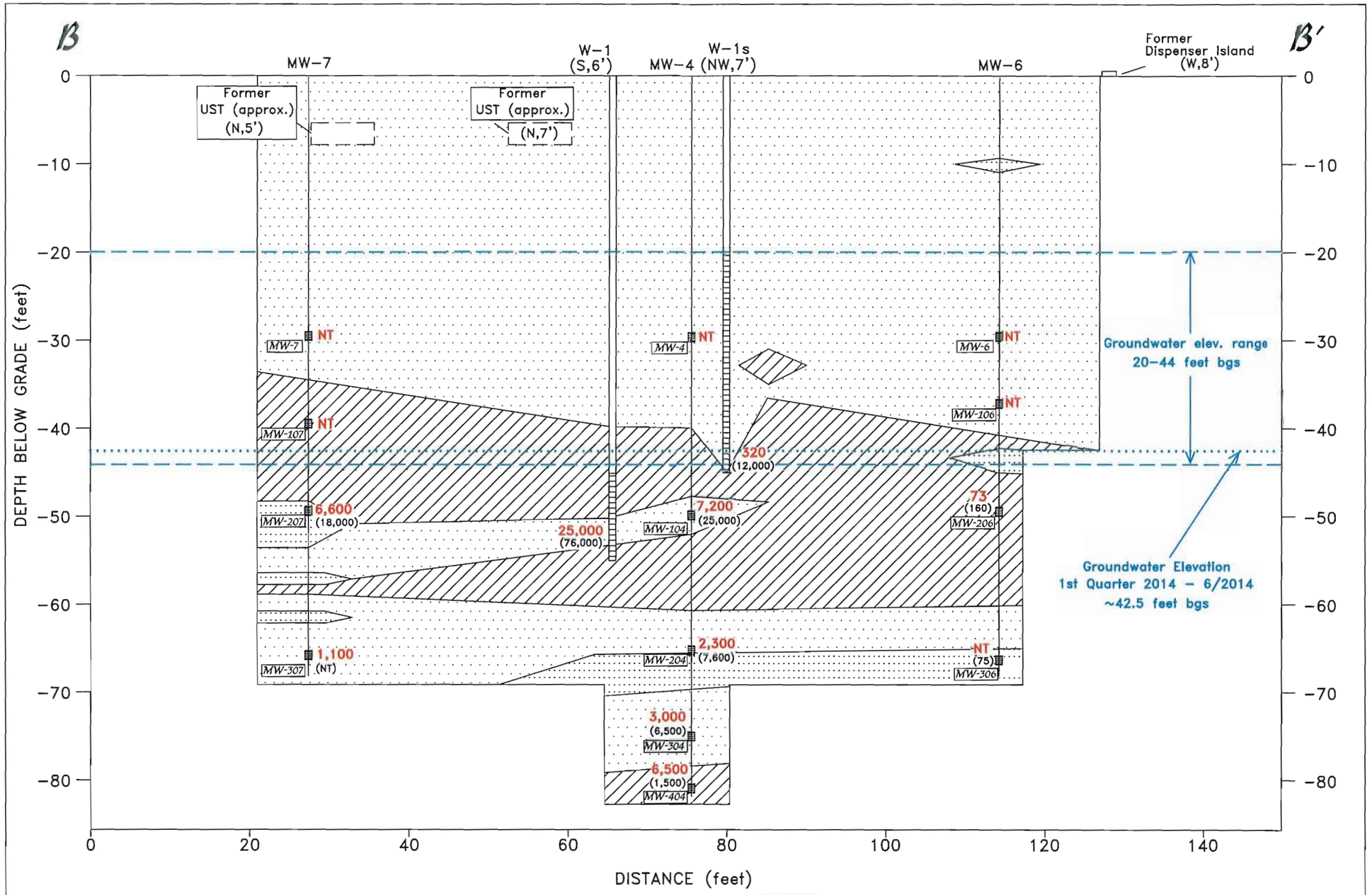


Figure 13
Cross Section B – B'
With TPH–gasoline
Arrow Rentals
187 N L Street
Livermore, CA
Project No.: 1262.2

Ground Zero Analysis, Inc. 7/22/14

LEGEND

Scale as Indicated.

(25,000) = Groundwater TPH–G Concentration (mg/kg)– October 2011 – Prior to DPE Remediation

6,500 = Groundwater TPH–G Concentration (mg/kg)

NT = Not Tested

MW-108 = CMT well screen section

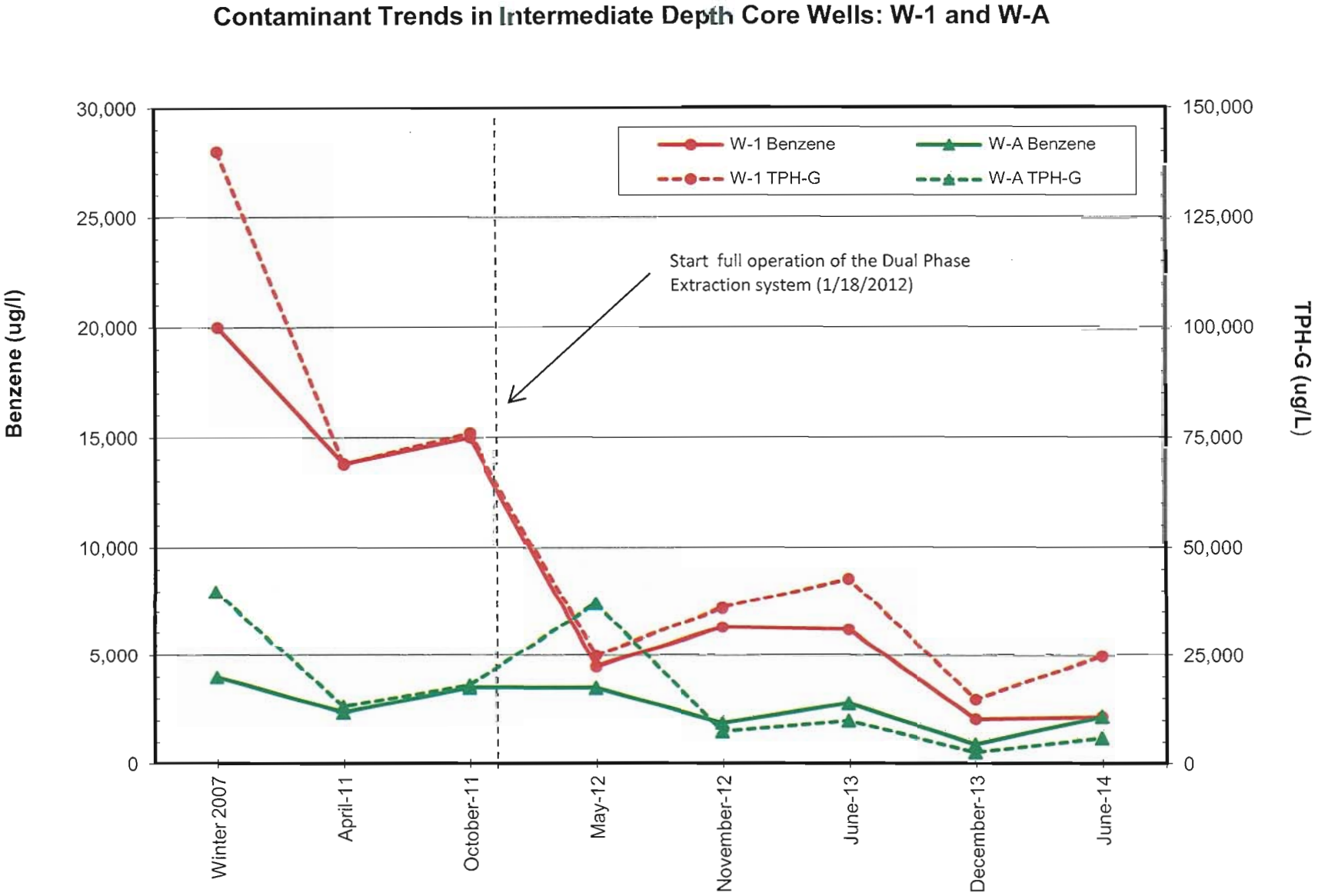
(N,5') = Boring projection onto section (direction, distance)

GRAVELLY UNITS UNITS (Includes sandy gravels,silty gravels, clayey gravels)

FINE GRAINED UNITS (Includes silts and clays, gravelly clays)

SAND UNITS

Figure 14
Sullins
187 N.L Street
Livermore, CA



Appendix A

Summary Tables

Table 1A: Summary of Groundwater Elevation and Gradient - Water Table Wells

Arrow Rentals
187 North L Street
Livermore, CA
Project No. 1262.2

Date		Elevation of Groundwater*								Avg. Elv.	Avg. DTW	Gradient	Bearing
		W-1s	DTW-W-1s	W-3s	DTW-W-3s	W-Bs	DTW-W-Es	W-Es	DTW-W-Es	(feet)	(feet)	(ft/ft)	
	top of casing	479.09		476.98		478.82		474.66					
	top of screen	459.09	20	456.98	20	458.82	20	454.66	20				
	bottom of screen	434.09	45	431.98	45	433.82	45	429.66	45				
6/2/1989		435.93		432.48		-		-		434.21	43.83		
7/25/1990		-		-		434.20		431.58		432.89	43.85		
1/1/1992										-	41.00		
4/24/1996		461.14		459.28		460.77		456.21		459.35	18.04		
11/22/1996		454.09		451.53		453.12		446.66		451.35	26.04		
7/15/1997		448.68		447.81		449.20		443.20		447.22	30.17		
10/29/1997		442.64	36.45	441.53		442.19		437.98		441.09	36.30		
4/27/1998		460.48	18.61	457.25		459.96		455.39		458.27	19.12		
10/23/1998		445.11	33.98	444.01		445.60		440.16		443.72	33.67		
4/9/1999		453.14	25.95	451.02		452.78		447.25		451.05	26.34		
10/5/1999		446.66	32.43	445.20		446.72		441.47		445.01	32.38		
4/5/2000		453.12	25.97	451.96		453.77		448.04		451.72	25.67		
10/26/2000		447.91	31.18	446.50		448.14		442.43		446.25	31.14		
4/18/2001		447.80	31.29	446.51		446.89		442.63		445.96	31.43		
11/13/2001		435.69	43.40	433.32		443.59		431.05		435.91	41.48		
2/15/2002		442.46		-	-	-	-	-		442.46	34.93		
3/15/2002		441.32		-	-	-	-	-		441.32	36.07		
4/16/2002		441.79		-	-	-	-	-		441.79	35.60		
4/30/2002		441.80	37.29	439.19		441.50		437.09		439.90	37.49		
9/30/2002		439.17	39.92	437.01		439.39		434.50		437.52	39.87		
3/19/2003		446.83	32.26	445.03		446.74		441.80		445.10	32.29		
9/16/2003		440.88		438.50		441.40		436.14		439.23	38.16		
4/29/2004		448.99	30.10	447.39	29.59	448.83	29.99	443.43	31.23	447.16	30.23	0.019	West
7/7/2006		450.40	28.69	448.61	28.37	450.25	28.57	444.21	30.45	448.37	29.02	0.019	N76°W

*Data prior to July 7, 2006 from *Environmental Sampling Services* 5/27/04 Groundwater Monitoring Report

Date		Elevation of Groundwater - Wells Surveyed October 16, 2006 in accordance with SWRCB Geotracker Requirements																													
		W-1s **	DTW-W-1s	W-3s	DTW-W-3s	W-Bs	DTW-W-Es	W-Es	DTW-W-Es	MW-4	DTW-MW-4	MW-5	DTW-MW-5	MW-6	DTW-MW-6	MW-7	DTW-MW-7	MW-8	DTW-MW-8	MW-105	DTW-MW-105	MW-106	DTW-MW-106	MW-107	DTW-MW-107	MW-108	MW-108	Avg. Elv.	Avg. DTW	Gradient	Bearing
	top of casing	481.19		479.12		480.92		476.78		480.84		481.12		480.79		480.91		480.64		481.12		480.79		480.91		480.64		(feet)	(feet)	(ft/ft)	
	top of screen	461.19	20	459.12	20	460.92	20	456.78	20	451.84	29	455.12	26	451.79	29	451.91	29	451.64	29	445.12	36	444.79	36	441.91	39	441.64	39				
	bottom of screen	436.19	45	434.12	45	435.92	45	431.78	45	450.84	30	454.12	27	450.79	30	450.91	30	450.64	30	444.12	37	443.79	37	440.91	40	440.64	40				
10/16/2006		447.81	33.38	446.17	32.95	447.93	32.99	442.75	34.03	-	-	-	-	-	-	-	-	-	-	447.97	33.15	447.11	33.68	446.77	34.14	446.34	34.30	446.61	33.58	0.014	N68°W
4/17/2007		449.64	31.55	448.35	30.77	449.51	31.41	444.58	32.20	454.09	26.75	-	-	-	-	-	-	-	-	-	-	-	-	448.92	31.99	-	-	448.20	31.58	0.016	N71°W
12/19/2007		438.88	42.31	437.46	41.66	444.51	36.41	433.10	43.68	-	-	-	-	-	-	-	-	-	-	-	-	443.07	37.72	442.26	38.65	442.60	38.04	440.27	39.78	0.033	S74°W
4/7/2008		446.97	34.22	-	-	446.76	34.16	442.34	34.44	453.30	27.54	-	-	445.99	34.80	-	-	452.15	28.49	447.38	33.74	445.18	35.61	445.86	35.05	446.36	34.28	447.23	33.23	0.012	N64°W
10/8-9/2008		435.40	43.69	-	-	-	-	431.01	43.65	-	-	-	-	-	-	-	-	-	-	431.68	49.44	431.31	49.48	-	-	430.56	50.08	431.99	47.27	0.010	N57°W
4/8/2011		452.00	27.09	452.20	26.92	453.81	27.11	446.59	28.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	451.15	27.30	0.0221	N56°W
10/26/2011		445.90	35.29	443.72	35.40	445.92	35.00	441.13	35.65	-	-	-	-	-	-	-	-	-	-	445.57	35.55	446.15	34.64	444.99	35.92	444.59	36.05	445.26	35.41	0.0129	S68°W
** 5/30/2012		442.92	38.27	439.98	39.14	441.85	39.07	437.10	39.68	-	-	-	-	-	-	-	-	-	-	445.63	35.49	443.61	37.18	442.15	38.76	-	-	441.89	38.23	0.0129	N82°W
** 11/19/2012		440.42	40.77	440.12	39.00	441.63	39.29	434.44	42.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	439.15	40.35	0.0153	N63°W
** 6/242013		443.59	37.60	442.17	36.95	443.60	37.32	439.46	37.32	-	-	-	-	-	-	-	-	-	-	445.69	35.43	444.72	36.07	443.81	37.10	443.35	37.29	443.30	36.89	0.0097	N75°W
** 12/3/2013		446.72	34.47	443.22	35.90	446.29	34.63	440.70	36.08	-	-	-	-	-	-	-	-	-	-	446.29	34.83	446.08	34.71	444.86	36.05	444.47	36.17	444.83	35.36	0.0192	S54°W
** 6/16/14		440.52	40.67	435.89	43.23	438.53	42.39	433.33	43.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	437.07	42.44	**0.0255**	S59°W

"-" = well dry or depth to water measurement could not be obtained

Starting 10/26/11 - Gradient calculated using a 3-point problem with monitoring wells W-Bs, W-Es and W-3s. - The well top of W-1s was modified for the DPE system.

6.23

** = The well top of W-1s was modified for the DPE system, therefore the depth-to-water data is irrevelant and was not used for groundwater contour or avg. groundwater elevation calculations

Table 1B: Summary of Groundwater Elevation and Gradient - Intermediate Wells

Arrow Rentals
187 North L Street
Livermore, CA
Project No. 1262.2

Date	Elevation of Groundwater - Wells Surveyed Octpber 16, 2006 in accordance with SWRCB Geotracker Requirements																								
		W-1**	DTW-W-1	W-A**	DTW-W-A	W-B	DTW-W-B	W-C	DTW-W-C	W-D	DTW-W-D	W-E	DTW-W-E	MW-104	DTW-MW-104	MW-205	DTW-MW-205	MW-206	DTW-MW-206	MW-207	DTW-MW-207	MW-208	DTW-MW-208	Avg. Elv.	Avg. DTW	Gradient	Bearing
	top of casing	480.77		481.04		480.74		481.61		477.03		476.56		480.84		481.12		480.79		480.91		480.64		(feet)	(feet)	(ft/ft)	
	top of screen	435.27	45.5	439.04	42	440.74	40	436.61	45	435.03	42	436.06	40.5	431.34	49.5	434.12	47	431.79	49	431.91	49	429.64	51				
	bottom of screen	425.27	55.5	423.54	57.5	425.74	55	426.61	55	419.53	57.5	416.26	60.3	430.34	50.5	433.12	48	430.79	50	430.91	50	428.64	52				
10/16/2006		-	-	-	-	-	-	-	-	-	-	442.63	33.93	444.85	35.99	446.75	34.37	447.03	33.76	446.27	34.64	445.12	35.52	445.44	34.70	0.012	N63°W
4/17/2007		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	448.57	32.22	447.13	33.78	447.05	33.59	447.58	33.20	0.022	S68°W
12/19/2007		-	-	438.36	42.68	-	-	-	-	-	-	-	-	435.98	44.86	-	-	436.10	44.69	434.33	46.58	433.92	46.72	435.74	45.11	0.04	N76°W
4/7/2008		-	-	446.72	34.32	-	-	-	-	-	-	-	-	443.10	37.74	444.84	36.28	446.38	34.41	444.84	36.07	443.66	36.98	444.92	35.97	northwest	variable
10/8-9/2008		-	-	-	-	Wells Destroyed on 4/18/2008								431.08	49.76	434.51	46.61	431.32	49.47	-	-	430.68	49.90	431.90	48.95	0.12	N20°W
4/8/2011		-	-	453.38	27.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	453.38	27.66	N/A	N/A
10/26/2011		445.28	35.49	445.60	35.44	-	-	-	-	-	-	-	-	444.83	36.01	444.00	37.12	443.25	37.54	442.79	38.12	442.05	38.59	443.75	37.14	0.025	N52°W
** 5/30/2012		441.21	39.56	441.50	39.54	-	-	-	-	-	-	-	-	441.78	39.06	442.43	38.69	441.39	39.40	440.37	40.54	440.05	40.59	441.25	39.63	0.020	S89°W
** 11/19/2012		439.12	41.65	438.12	42.92	-	-	-	-	-	-	-	-	439.29	41.55	439.08	42.04	438.11	42.68	437.70	43.21	437.35	43.29	438.40	42.48	0.015	N36°W
** 6/24/2013		443.53	37.24	444.19	36.85	-	-	-	-	-	-	-	-	443.76	37.08	444.33	36.79	443.74	37.05	442.74	38.17	442.47	38.17	443.54	37.34	0.014	N73°W
** 12/3/2013		444.43	36.34	445.11	35.93	-	-	-	-	-	-	-	-	444.54	36.30	445.13	35.99	444.74	36.05	444.77	36.14	444.37	36.27	444.73	36.15	0.013	N32°W
** 6/16/14		436.71	44.06	436.97	44.07	-	-	-	-	-	-	-	-	437.15	43.69	437.70	43.42	436.64	44.15	435.92	44.99	431.78	48.86	436.12	44.75	**0.076**	**N74°W**

"-" = well dry or depth to water measurement could not be obtained
Starting 10/26/11 - Gradient calculated using a 3-point problem with CMT wells 205, 206 & 208
** = The well tops of W-A and W-1 were modified for the DPE system, therefore the depth-to-water data is irrevelant and was not used for groundwater contour or avg. groundwater elevation calculations

Table 1C: Summary of Groundwater Elevation and Gradient - Deep Wells

Arrow Rentals
187 North L Street
Livermore, CA
Project No. 1262.2

Date	Elevation of Groundwater - Wells Surveyed October 16, 2006 in accordance with SWRCB Geotracker Requirements																	
		DEEP WELLS										GROUNDWATER				DEEPEST WELLS			
		MW-204	DTW-MW-204	MW-305	DTW-MW-305	MW-306	DTW-MW-306	MW-307	DTW-MW-307	MW-308	DTW-MW-308	Avg. Elv.	Avg. DTW	Gradient	Bearing	MW-304	DTW-MW-304	MW-404	DTW-MW-404
	top of casing	480.84		481.12		480.79		480.91		480.64		(feet)	(feet)	(ft/ft)		480.84		480.84	
	top of screen	415.34	65.5	416.12	65	415.79	65	415.91	65	415.64	65					406.34	74.5	400.84	80.0
	bottom of screen	414.34	66.5	415.12	66	414.79	66	414.91	66	414.64	66					405.34	75.5	399.34	81.5
10/16/2006		447.09	33.75	447.44	33.68	447.29	33.50	446.63	34.28	446.37	34.27	446.96	33.90	0.014	N78°W	442.76	38.08	444.37	36.47
4/17/2007		-	-	448.49	32.63	449.08	31.71	-	-	-	-	448.79	32.17	-	-	-	-	448.82	32.02
12/19/2007		435.73	45.11	-	-	443.19	37.60	435.20	45.71	434.93	45.71	437.26	43.53	0.18	S39°W	435.45	45.39	435.51	45.33
4/7/2008		446.42	34.42	446.56	34.56	442.68	38.11	446.86	34.05	445.59	35.05	445.62	35.24	0.1	N26°E	441.42	39.42	446.18	34.66
10/8-9/2008		429.90	50.94	444.51	36.61	432.28	48.51	-	-	442.09	38.55	437.20	43.65	-	-	-	-	432.20	48.64
4/8/2011		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/26/2011		445.22	35.62	445.74	35.38	445.34	35.45	-	-	445.55	35.09	445.46	35.39	0.0114	N64°W	445.14	35.70	445.07	35.77
5/30/2012		441.06	39.78	441.37	39.75	440.96	39.83	440.56	40.35	440.24	40.40	440.84	40.02	0.0100	N79°W	440.95	39.89	440.85	39.99
11/19/2012		438.53	42.31	438.84	42.28	438.46	42.33	438.04	42.87	437.72	42.92	438.32	42.54	0.0089	N72°W	438.40	42.44	438.33	42.51
6/24/2013		443.75	37.09	444.05	37.07	443.69	37.10	443.16	37.75	442.87	37.77	443.50	37.36	0.0091	N78°W	443.66	37.18	443.50	37.34
12/3/2013		444.78	36.06	445.01	36.11	444.67	36.12	444.14	36.77	443.97	36.67	444.51	36.35	0.0100	S75°W	444.66	36.18	444.54	36.30
6/16/2014		436.62	44.22	436.89	44.23	436.57	44.22	436.11	44.80	436.10	44.54	436.46	44.40	**0.0120**	**N49°W**	436.51	44.33	436.40	44.44

"-" = well dry or depth to water measurement could not be obtained
Starting 10/26/11 - Gradient calculated using a 3-point problem with CMT wells 305, 307 & 308

Table 2: Summary of Vertical Groundwater Gradients

Arrow Rentals
187 North L Street
Livermore CA
Project No. 1262.2

Date	Well Pair	Mid Points (TS-BS & TS-BS)	gwl/ts	bs/bs	GW Elev. (Head)	Vert Head diff.	Vert Dist diff.	Vertical Gradient
16-Oct-06	MW-104	430.84	431.34	430.34	444.85	2.240	16.00	0.140
	MW-204	414.84	415.34	414.34	447.09			
16-Oct-06	MW-205	433.62	434.12	433.12	446.75	0.690	18.00	0.038
	MW-305	415.62	416.12	415.12	447.44			
19-Apr-07	MW-107	441.41	441.91	440.91	448.92	-1.790	10.00	-0.179
	MW-207	431.41	431.91	430.91	447.13			
19-Apr-07	MW-206	431.29	431.79	430.79	446.75	0.510	16.00	0.032
	MW-306	415.29	415.79	414.79	447.44			
19-Dec-07	MW-204	414.84	415.34	414.34	435.73	-0.280	9.00	-0.031
	MW-304	405.84	406.34	405.34	435.45			
19-Dec-07	MW-304	405.84	406.34	405.34	435.45	0.060	5.75	0.010
	MW-404	400.09	400.84	399.34	435.51			
19-Dec-07	MW-207	431.41	431.91	430.91	434.33	0.870	16.00	0.054
	MW-307	415.41	415.91	414.91	435.20			
7-Apr-08	MW-204	414.84	415.34	414.34	446.42	-5.000	9.00	-0.556
	MW-304	405.84	406.34	405.34	441.42			
7-Apr-08	MW-205	433.62	434.12	433.12	446.75	1.720	18.00	0.096
	MW-305	415.62	416.12	415.12	447.44			
7-Apr-08	MW-206	431.29	431.79	430.79	446.75	-3.700	16.00	-0.231
	MW-306	415.29	415.79	414.79	447.44			
7-Apr-08	MW-207	431.41	431.91	430.91	444.84	2.020	16.00	0.126
	MW-307	415.41	415.91	414.91	446.86			
8-Oct-08	MW-204	414.84	415.34	414.34	429.90		9.00	N/A
	MW-304	405.84	406.34	405.34	-			
8-Oct-08	MW-205	433.62	434.12	433.12	434.51	10.000	18.00	0.556
	MW-305	415.62	416.12	415.12	444.51			
8-Oct-08	MW-206	431.29	431.79	430.79	431.32	0.960	16.00	0.060
	MW-306	415.29	415.79	414.79	432.28			
8-Oct-08	MW-207	431.41	431.91	430.91	-		16.00	N/A
	MW-307	415.41	415.91	414.91	-			
25-Oct-11	MW-204	414.84	415.34	414.34	445.22	-0.080	9.00	-0.009
	MW-304	405.84	406.34	405.34	445.14			
25-Oct-11	MW-205	433.62	434.12	433.12	444.00	1.740	18.00	0.097
	MW-305	415.62	416.12	415.12	445.74			
25-Oct-11	MW-206	431.29	431.79	430.79	443.25	2.090	16.00	0.131
	MW-306	415.29	415.79	414.79	445.34			
25-Oct-11	MW-207	431.41	431.91	430.91	442.79		16.00	N/A
	MW-307	415.41	415.91	414.91	-			
30-May-12	MW-204	414.84	415.34	414.34	441.06	-0.110	9.00	-0.012
	MW-304	405.84	406.34	405.34	440.95			
30-May-12	MW-205	433.62	434.12	433.12	442.43	-1.060	18.00	-0.059
	MW-305	415.62	416.12	415.12	441.37			
30-May-12	MW-206	431.29	431.79	430.79	441.39	-0.430	16.00	-0.027
	MW-306	415.29	415.79	414.79	440.96			
30-May-12	MW-207	431.41	431.91	430.91	440.37	0.190	16.00	0.012
	MW-307	415.41	415.91	414.91	-			
19-Nov-12	MW-204	414.84	415.34	414.34	438.53	-0.130	9.00	-0.014
	MW-304	405.84	406.34	405.34	438.40			
19-Nov-12	MW-205	433.62	434.12	433.12	439.08	-0.240	18.00	-0.013
	MW-305	415.62	416.12	415.12	438.84			
19-Nov-12	MW-206	431.29	431.79	430.79	438.11	0.350	16.00	0.022
	MW-306	415.29	415.79	414.79	438.46			
19-Nov-12	MW-207	431.41	431.91	430.91	437.70	0.340	16.00	0.021
	MW-307	415.41	415.91	414.91	438.04			
24-Jun-13	MW-204	414.84	415.34	414.34	443.75	-0.090	9.00	-0.010
	MW-304	405.84	406.34	405.34	443.66			
24-Jun-13	MW-205	433.62	434.12	433.12	444.33	-0.280	18.00	-0.016
	MW-305	415.62	416.12	415.12	444.05			
24-Jun-13	MW-206	431.29	431.79	430.79	443.74	-0.050	16.00	-0.003
	MW-306	415.29	415.79	414.79	443.69			
24-Jun-13	MW-207	431.41	431.91	430.91	442.74	0.420	16.00	0.026
	MW-307	415.41	415.91	414.91	443.16			
3-Dec-13	MW-204	414.84	415.34	414.34	444.78	-0.120	9.00	-0.013
	MW-304	405.84	406.34	405.34	444.66			
3-Dec-13	MW-205	433.62	434.12	433.12	445.13	-0.120	18.00	-0.007
	MW-305	415.62	416.12	415.12	445.01			
3-Dec-13	MW-206	431.29	431.79	430.79	444.74	-0.070	16.00	-0.004
	MW-306	415.29	415.79	414.79	444.67			
3-Dec-13	MW-207	431.41	431.91	430.91	444.77	-0.630	16.00	-0.039
	MW-307	415.41	415.91	414.91	444.14			
16-Jun-14	MW-204	414.84	415.34	414.34	436.62	-0.110	9.00	-0.012
	MW-304	405.84	406.34	405.34	436.51			
16-Jun-14	MW-205	433.62	434.12	433.12	437.70	-0.810	18.00	-0.045
	MW-305	415.62	416.12	415.12	436.89			
16-Jun-14	MW-206	431.29	431.79	430.79	436.64	-0.070	16.00	-0.004
	MW-306	415.29	415.79	414.79	436.57			
16-Jun-14	MW-207	431.41	431.91	430.91	435.92	0.190	16.00	0.012
	MW-307	415.41	415.91	414.91	436.11			

Table 3: Summary of Well Construction

Arrow Rentals
187 North L Street
Livermore, CA
Project No. 1262.2

Well/Boring Type	Well/Boring Number	Status	Date Drilled	Total Depth (ft)	Boring Diameter (in)	Well Casing Diameter (in)	Casing Type	Slot Size (in)	Sand Type	Well Screen		Filter Pack		Annular Seal		Grout Seal	
										From	To	From	To	From	To	From	To
Monitoring	W-1	Active	5/25/1989	56.5	8	2	PVC	0.010	#2/12	55.5	45.5	55.5	41.5	41.5	39	39	S
Monitoring	W-2	Active	5/26/1989	51.5	8	2	PVC	0.010	#2/12	49	39	49	36	36	22.5	22.5	S
Monitoring	W-3	Active	5/26/1989	51.5	8	2	PVC	0.010	#2/12	48	38	48	34.5	34.5	32.5	32.5	S
Monitoring	W-A	Active	7/12/1990	63	12	4	PVC	0.010	#2/12	57.5	42	63	40	40	36.5	36.5	S
Monitoring	W-B	Active	7/13/1990	55	12	4	PVC	0.010	#2/12	55	40	55	32	32	30	30	S
Monitoring	W-C	Active	7/11/1990	55	8	2	PVC	0.010	#2	55	45	55	37.5	37.5	35	35	S
Monitoring	W-D	Active	7/12/1990	57.5	12	4	PVC	0.010	#2/12	57.5	42	57.5	39.5	34	32	32	S
Monitoring	W-E	Active	7/10/1990	61	8	2	PVC	0.010	#2/12	60.3	40.5	61	37	30	29	29	S
Monitoring	MW-1s	Active	3/11/1996	45	?	6	PVC	0.010	#2/12	45	20	45	17	17	15	15	S
Monitoring	MW-Bs	Active	3/12/1996	45	?	6	PVC	0.010	#2/12	45	20	45	18	18	16	16	S
Monitoring	MW-3s	Active	3/12/1996	45	?	4	PVC	0.010	#2/12	45	20	45	18	18	16	16	S
Monitoring	MW-Es	Active	3/13/1996	45	?	2	PVC	0.010	#2/12	45	20	45	18	18	16	16	S
Monitoring	MW-4	Active	10/04/06	82	8	-	MCT	-	#2/12	30	29	30	20	16	14	14	S
Monitoring	MW-104	Active	-	-	-	-	MCT	-	#2/12	50.5	49.5	52	48	-	-	-	-
Monitoring	MW-204	Active	-	-	-	-	MCT	-	#2/12	66.5	65.5	68	64	-	-	-	-
Monitoring	MW-304	Active	-	-	-	-	MCT	-	#2/12	75.5	74.5	76	73	-	-	-	-
Monitoring	MW-404	Active	-	-	-	-	MCT	-	#2/12	81.5	80	81.5	79.5	-	-	-	-
Monitoring	MW-5	Active	10/09/06	68	8	-	MCT	-	#2/12	27	26	29	24	24	21.5	21.5	S
Monitoring	MW-105	Active	-	-	-	-	MCT	-	#2/12	37	36	39	34	-	-	-	-
Monitoring	MW-205	Active	-	-	-	-	MCT	-	#2/12	48	47	50	45	-	-	-	-
Monitoring	MW-305	Active	-	-	-	-	MCT	-	#2/12	66	65	68	63	-	-	-	-
Monitoring	MW-6	Active	10/10/06	68	8	-	MCT	-	#2/12	30	29	31	27	27	24	24	S
Monitoring	MW-106	Active	-	-	-	-	MCT	-	#2/12	37	36	39	35	-	-	-	-
Monitoring	MW-206	Active	-	-	-	-	MCT	-	#2/12	50	49	52	47	-	-	-	-
Monitoring	MW-306	Active	-	-	-	-	MCT	-	#2/12	66	65	68	63	-	-	-	-
Monitoring	MW-7	Active	10/05/06	69.5	8	-	MCT	-	#2/12	30	29	30	20	-	-	6	S
Monitoring	MW-107	Active	-	-	-	-	MCT	-	#2/12	40	39	42	37	-	-	-	-
Monitoring	MW-207	Active	-	-	-	-	MCT	-	#2/12	50	49	52	47	-	-	-	-
Monitoring	MW-307	Active	-	-	-	-	MCT	-	#2/12	66	65	68	63	-	-	-	-
Monitoring	MW-8	Active	10/06/06	66.5	8	-	MCT	-	#2/12	30	29	30	30	20	18	18	S
Monitoring	MW-108	Active	-	-	-	-	MCT	-	#2/12	40	39	42	37	-	-	-	-
Monitoring	MW-208	Active	-	-	-	-	MCT	-	#2/12	52	51	54	49	-	-	-	-
Monitoring	MW-308	Active	-	-	-	-	MCT	-	#2/12	66	65	66	63	-	-	-	-
Vapor Extraction	EW-1	Active	10/3/2006	25	10	4	PVC	0.010	#2/12	25	10	25	9.5	9.5	7.5	7.5	S

Red= Destroyed in 2008

Table 4: Summary of Groundwater Analytical Data

Arrow Rentals
187 North L Street
Livermore CA
Project No. 1262.2

Wells	Date	TPH Gasoline ug/L	TPH Diesel ug/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L	MTBE ug/L	ETBE ug/L	DIPE ug/L	TAME ug/L	TBA ug/L	1,2 DCA ug/L	EDB ug/L
W-1	11/1988 (?)	210,000	300,000	29,000	30,000	5,400	24,000	-	-	-	-	-	-	-
	9/13/1995	666,000	-	65,000	78,000	6,400	36,000	<12500	-	-	-	-	-	-
	10/19/2006	77,000	-	9,700	11,000	2,000	10,000	-	-	-	-	-	-	-
	10/20/2006	110,000	-	4,600	7,200	3,900	11,000	-	-	-	-	-	-	-
	12/20/2007	140,000	-	20,000	17,000	3,000	16,000	<2000	-	-	-	-	-	-
	4/8/2011	68,900	-	13,800	8,150	1,520	11,600	<200	-	-	-	-	-	-
	10/26/2011	76,000	-	15,000	6,100	910	11,000	-	-	-	-	-	-	-
	5/30/2012	25,000	-	4,500	840	600	1,900	-	-	-	-	-	-	-
	11/19/2012	36,000	-	6,300	1,700	1,900	6,200	-	-	-	-	-	-	-
	6/26/2013	43,000	-	6,200	1,700	1,900	5,500	190	-	-	-	-	-	-
	12/5/2013	15,000	-	2,100	580	440	1,900	13	-	-	-	-	-	-
	6/17/2014	25,000	-	2,200	210	1,500	2,900	23	-	-	-	-	-	-
W-2	11/1988 (?)	360	<50	6.7	2.1	0.5	1.3	-	-	-	-	-	-	-
	9/13/1995	90	-	<0.5	<0.5	<0.5	<0.5	<5	-	-	-	-	-	-
	4/8/2011	well location unknown												
W-3	11/1988 (?)	11,000	2,200	290	120	150	140	-	-	-	-	-	-	-
	9/13/1995	27,000	-	5,600	290	460	280	<2500	-	-	-	-	-	-
	4/7/2011	193	-	7.8	<0.5	0.5	<1	<0.5	-	-	-	-	-	-
	10/26/2011	no access agreement												
W-A	1990	10,000	2,400	6,800	5,500	620	3,400	-	-	-	-	-	-	-
(dup)	1990	-	-	6,900	5,600	620	6,800	-	-	-	-	-	-	-
	10/20/2006	450	-	40	19	21	33	-	-	-	-	-	-	-
	10/29/2007	40,000	-	4,000	330	1,600	3,000	<100	-	-	-	-	-	-
	4/8/2011	13,200	-	2,370	128	439	523	<20	-	-	-	-	-	-
	10/26/2011	18,000	-	3,500	410	970	870	-	-	-	-	-	-	-
	6/7/2012	37,000	-	3,500	700	660	1700	-	-	-	-	-	-	-
	11/21/2012	7,500	-	1,900	110	300	440	-	-	-	-	-	-	-
	6/25/2013	10,000	-	2,800	370	520	1,100	56	-	-	-	-	-	-
	12/5/2013	2,800	-	930	54	59	220	7.2	-	-	-	-	-	-
	6/17/2014	6,100	-	2,200	84	170	250	21						
W-B	1990	13,000	1,700	22,000	7,900	2,000	4,000	-	-	-	-	-	-	-
(dup)	1990	21,000	1,600	21,000	7,300	1,800	3,700	-	-	-	-	-	-	-
		Abondened April 14, 2008												
W-C	1990	<10	<100	<1	<1	<1	<1	-	-	-	-	-	-	-
		Abondened April 14, 2008												
W-D	1990	100	<100	1	2	2	1	-	-	-	-	-	-	-
		Abondened April 14, 2008												
W-E	1990	<10	<100	<1	<1	<1	<1	-	-	-	-	-	-	-
	9/13/1995	95	-	4	<0.5	<0.5	<0.5	18	-	-	-	-	-	-
		Abondened April 14, 2008												
W-1s	3/22/1996	6,400	-	580	470	85	1,100	<500	-	-	-	-	-	-
	11/22/1996	170,000	-	13,000	18,000	3,500	18,000	<10000	-	-	-	-	-	-
	7/15/1997	140,000	38,000	12,000	12,000	2,600	16,000	<800	-	-	-	-	-	-
	10/29/1997	650,000	180,000	14,000	19,000	7,800	35,000	<3000	-	-	-	-	-	-
	4/27/1998	6,700	2,200	410	250	77	870	<30	-	-	-	-	-	-
	10/23/1998	99,000	18,000	9,800	9,400	1,800	11,000	<600	-	-	-	-	-	-
	4/9/1999	70,000	24,000	6,500	7,000	1,800	8,900	360	-	-	-	-	-	-
	10/5/1999	82,000	60,000	5,500	4,500	2,500	14,000	<300	-	-	-	-	-	-
	4/5/2000	47,000	15,000	4,300	2,300	1,500	6,100	170	-	-	-	-	-	-
	10/26/2000	50,000	1,200	3,800	1,800	1,700	7,600	<50	-	-	-	-	-	-
	4/18/2001	54,000	6,800	5,200	1,800	1,500	7,000	<330	-	-	-	-	-	-
	11/13/2001	750,000	-	9,500	7,800	7,200	33,000	<2000	-	-	-	-	-	-
	4/30/2002	66,000	8,200	6,000	2,700	2,300	11,000	<1200	-	-	-	-	-	-
	9/30/2002	51,000	1,200	5,600	1,500	2,000	9,400	<1000	-	-	-	-	-	-
	3/19/2003	49,000	9,800	3,400	880	1,300	7,300	<500	-	-	-	-	-	-
	9/16/2003	53,000	24,000	4,100	1,200	1,400	6,600	<1000	-	-	-	-	-	-
	4/29/2004	39,000	5,900	3,700	1,200	810	4,700	<2500	-	-	-	-	-	-
	7/7/2006	23,000	<500	4,000	710	1,200	2,900	<100	<500	<500	<500	<1000	<50	<50
	10/17/2006	35,000	<470	5,000	1,300	1,500	3,500	-	-	-	-	-	-	-
	10/19/2006	40,000	-	6,000	3,800	1,300	4,400	-	-	-	-	-	-	-
	10/20/2006	32,000	-	2,100	2,700	1,200	3,600	-	-	-	-	-	-	-
	4/19/2007	21,000	-	2,200	460	1,200	1,800	<200	-	-	-	-	-	-
	10/29/2007	68,000	-	19,000	830	2,700	4,000	<400	-	-	-	-	-	-
	4/8/2008	30,000	-	2,600	340	1,800	1,700	<120	-	-	-	-	-	-
	10/9/2008	39,000	-	3,900	340	1,400	2,000	<250	-	-	-	-	-	-
	4/8/2011	13,400	-	2,040	239	1,180	877	<20	-	-	-	-	-	-
	10/26/2011	12,000	-	2,900	280	520	530	-	-	-	-	-	-	-
	5/30/2012	11,000	-	490	83	140	740	-	-	-	-	-	-	-
	11/21/2012	3,600	-	320	47	33	180	-	-	-	-	-	-	-
	6/26/2013	1,700	-	530	11	8.1	18	<10	-	-	-	-	-	-
	12/4/2013	1,100	-	140	16	7.8	120	7.4	-	-	-	-	-	-
	6/17/2014	320	-	9	<1	<1	<2	<1	-	-	-	-	-	-
W-3s	3/22/1996	100	-	13	6.9	5.3	14	<5	-	-	-	-	-	-
	11/22/1996	3,200	-	270	29	63	100	<100	-	-	-	-	-	-
	7/15/1997	2,100	340	230	7	33	51	<20	-	-	-	-	-	-
	10/29/1997	2,800	750	630	31	71	69	<30	-	-	-	-	-	-
	4/27/1998	<50	<50	<0.5	<0.5	<0.5	<0.5	<3	-	-	-	-	-	-
	10/23/1998	3,800	1,000	500	28	90	37	35	-	-	-	-	-	-
	4/9/1999	980	430	240	4	37	3	<12	-	-	-	-	-	-
	10/5/1999	1,500	1,000	290	9.5	53	9.8	<6	-	-	-	-	-	-
	4/5/2000	810	320	150	3	9	5.7	<5	-	-	-	-	-	-
	10/26/2000	310	120	83	3.5	6.4	1.2	<5	-	-	-	-	-	-
	4/18/2001	2,300	1,600	320	8	16	7	<20	-	-	-	-	-	-
	11/13/2001	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/30/2002	1,400	490	320	5.5	24	5	<25	-	-	-	-	-	-
	3/19/2003	5,300	1,500	920	24	140	27	<25	-	-	-	-	-	-
	3/19/2003	5,300	1,500	920	24	140	27	<25	-	-	-	-	-	-
	9/16/2003	1,600	1,400	270	1.7	5.2	<0.5	<5	-	-	-	-	-	-
	4/29/2004	1,300	400	210	5.1	23	4.5	<25	-	-	-	-	-	-
	7/7/2006	110	<500	44	0.77	<0.5	<0.5	<1	<5	<5	<5	<10	<0.5	<0.5
	10/17/2006	1,300	<50	95	<2	2	<2	-	-	-	-	-	-	-
	4/19/2007	320	-	83	<2.5	<2.5	<2.5	<5	-	-	-	-	-	-
	12/19/2007	69	-	1.3	<0.5	<0.5	<1	<2	-	-	-	-	-	-
	4/8/2011	937	-	422	<5	6.5	<10	<5	-	-	-	-	-	-
	10/25/2011	190	-	5.2	0.76	1.3	2.1	-	-	-	-	-	-	-
	5/30/2012	110	-	33	0.51	1.1	0.5	-	-	-	-	-	-	-
	11/19/2012	71	-	<0.3	<0.3	<0.3	<0.6	-	-	-	-	-	-	-
	6/25/2013	85	-	6	0.82	0.36	0.75	<1.0	-	-	-	-	-	-
	12/3/2013	16	-	6.2	<0.5	<0.5	<1	<0.5	-	-	-	-	-	-
	6/17/2014	-	-	-	-	-	-	-	-	-	-	-	-	-
W-Bs	3/22/1996	61,000	-	9,800	8,000	2,200	11,000	<5000	-	-	-	-	-	-
	11/22/1996	47,000	-	5,100	3,100	1,400	7,800	<2500	-	-	-	-	-	-
	7/15/1997	66,000	17,000	7,800	4,900	1,900	10,000	<600	-	-	-	-	-	-
	10/29/1997	44,000	27,000	6,000	500	1,500	6,400	380	-	-	-	-	-	-
	4/27/1998	63,000	17,000	6,100	5,400	1,900	9,100	<600	-	-	-	-	-	-
	10/23/1998	48,000	9,600	6,700	1,200	1,500	6,200	<300	-	-	-	-	-	-
	4/9/1999	39,000	12,000	4,100	1,900	1,400	5,600	<300	-	-	-	-	-	-
	10/5/1999	38,000	7,300	3,800	390	1,600	5,900	<60	-	-	-	-	-	-
	4/5/2000	34,000	9,600	3,500	1,200	1,400	4,700	<150	-	-	-	-	-	-
	10/26/2000	23,000	650	2,500	210	1,100	2,600	150	-	-	-	-	-	-
	4/18/2001	20,000	2,500	2,400	180	880	1,800	<20	-	-	-	-	-	-
	11/13/2001	17,000	3,600	2,000	130	1,100	1,700	<150	-	-	-	-	-	-
	4/30/2002	13,000	2,300	1,000	38	660	360	<170	-	-	-	-	-	-
	9/30/2002	7,100	1,500	940	28	260	93	<250	-	-	-	-	-	-
	3/19/2003	14,000	3,900	1,200	77	820	900	<120	-	-	-	-	-	-
	9/16/2003	9,400	1,900	1,300	36	580	160	<150	-	-	-	-	-	-
	4/29/2004	15,000	3,300	2,400	170	1,300	950	<200	-	-	-	-	-	-
	7/7/2006	11,000	<50	1,900	160	820	440	<40	<200	<200	<200	<400	<20	<20
	10/17/2006	6,500	<47	1,000	37	410	83	-	-	-	-	-	-	-
	10/20/2006	630	<47	39	8.5	1.7	20	-	-	-	-	-	-	-
	4/19/2007	12,000	-	1,500	100	900	620	<100	-	-	-	-	-	-
	12/19/2007	8,200	-	360	<50	380	<100	<200	-	-	-	-	-	-
	4/8/2008	4,400	-	410	15	460	71	<50	-	-	-	-	-	-
	4/8/2011	6,960	-	1,280	56.2	632	432	<10	-	-	-	-	-	-
	10/25/2011	4,900	-	250	23	230	38	-	-	-	-	-	-	-
	5/30/2012	310	-	7.6	0.46	18	3	-	-	-	-	-	-	-
	11/19/2012	1,100	-	31	3.9	23	17	-	-	-	-	-	-	-
	6/25/2013	580	-	34	2.4	3.9	1.8	6.1	-	-	-	-	-	-
	12/12/2013	1,600	-	62	3.8	31	5.1	<0.5	-	-	-	-	-	-
	6/17/2014	190	-	26	1	1	3	<0.5	-	-	-	-	-	-
W-Es	3/22/1996	<50	-	<0.5	<0.5	<0.5	<0.5	<5	-	-	-	-	-	-
	11/22/1996	280	-	24	0.6	1.8	2.2	<5	-	-	-	-	-	-
	7/15/1997	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/29/1997	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/27/1998	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/23/1998	82	69	<0.5	0.8	<0.5	0.8	4	-	-	-	-	-	-
	4/9/1999	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/5/1999	68	88	<0.5	<0.5	<0.5	<1.0	4	-	-	-	-	-	-
	4/5/2000	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/26/2000	110	<50	0.7	<0.5	<0.5	<1.0	<5	-	-	-	-	-	-

Table 4: Summary of Groundwater Analytical Data

Arrow Rentals
187 North L Street
Livermore CA
Project No. 1262.2

Wells	Date	TPH Gasoline ug/L	TPH Diesel ug/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L	MTBE ug/L	ETBE ug/L	DIPE ug/L	TAME ug/L	TBA ug/L	1,2 DCA ug/L	EDB ug/L
	4/18/2001	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/13/2001	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/30/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
	9/30/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/19/2003	86	61	<0.5	<0.5	<0.5	<0.5	<5	-	-	-	-	-	-
	4/17/2007	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/29/2004	55	87	0.62	<0.5	<0.5	<0.5	<5	-	-	-	-	-	-
	7/7/2006	<25	<50	<0.5	<0.5	<0.5	<0.5	2.4	<5	<5	<5	<10	<0.5	<0.5
	10/17/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	4/17/2007	<50	-	<0.5	<0.5	<0.5	<0.5	<1	-	-	-	-	-	-
	12/19/2007	<50	-	<0.5	<0.5	<0.5	<1	<2	-	-	-	-	-	-
	4/7/2008	<50	-	<0.5	<0.5	<0.5	<1	<5	-	-	-	-	-	-
	10/8/2008	<50	-	<0.5	<0.5	<0.5	<1	<5	-	-	-	-	-	-
	4/8/2011	<50	-	<0.5	<0.5	<0.5	<1	0.5	-	-	-	-	-	-
	10/26/2011	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/29/2012	<50	-	<0.5	<0.5	<0.5	<1	0.84	-	-	-	-	-	-
	11/19/2012	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/25/2013	<50	-	<0.3	<0.3	<0.3	<0.6	1	-	-	-	-	-	-
	12/3/2013	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/17/2014	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	10/16/2006	DRY												
	4/17/2007	DRY												
	10/29/2007	460,000	-	24,000	21,000	3,800	19,000	<500	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2011	DRY												
	10/26/2011	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/30/2012	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-5	10/16/2006	DRY												
	4/19/2007	DRY												
	12/19/2007	DRY												
	4/8/2011	DRY												
	10/26/2011	DRY												
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-6	10/16/2006	DRY												
	4/17/2007	DRY												
	12/19/2007	DRY												
	4/8/2011	220	-	3.2	<0.5	<0.5	<1	<0.5	-	-	-	-	-	-
	10/26/2011	DRY												
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-7	10/16/2006	DRY												
	4/17/2007	DRY												
	12/19/2007	DRY												
	4/8/2011	DRY												
	10/26/2011	DRY												
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-8	10/16/2006	DRY												
	4/17/2007	DRY												
	12/19/2007	DRY												
	4/8/2011	765	-	119	<2	3.0	6.0	<2	-	-	-	-	-	-
	10/26/2011	DRY												
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-104	10/19/2006	960	-	250	170	20	83	-	-	-	-	-	-	-
	4/18/2007	DRY												
	10/29/2007	1,300	-	210	82	110	380	<5	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	32,000	-	7,100	1,400	680	1,800	<250	-	-	-	-	-	-
	4/8/2011	18,500	-	13,700	212	266	384	250	-	-	-	-	-	-
	10/26/2011	25,000	-	8,400	120	490	740	-	-	-	-	-	-	-
	5/30/2012	18,000	-	4,200	280	490	1,300	<10	-	-	-	-	-	-
	11/19/2012	12,000	-	6,100	280	310	530	32	-	-	-	-	-	-
	6/25/2013	15,000	-	6,600	160	490	490	120	-	-	-	-	-	-
	12/5/2013	6,000	-	840	100	150	350	20	-	-	-	-	-	-
	6/17/2014	7,200	-	2,400	76	320	510	30	-	-	-	-	-	-
MW-105	10/16/2006	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/19/2007	13,000	-	4,300	980	490	1,500	<250	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	DRY												
	10/9/2008	11,000	-	3,800	70	40	110	<50	-	-	-	-	-	-
	4/8/2011	11,300	-	5,870	135	518	1,110	<40	-	-	-	-	-	-
	10/26/2011	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-106	10/16/2006	56	-	2.2	<0.5	0.57	<0.5	-	-	-	-	-	-	-
	4/19/2007	240	-	7.6	<0.5	<0.5	<0.5	<1	-	-	-	-	-	-
	10/29/2007	86	-	<0.5	<0.5	<0.5	<0.5	<1	-	-	-	-	-	-
	12/20/2007	54	-	1.0	<0.5	<0.5	<1	<2	-	-	-	-	-	-
	4/8/2008	DRY												
	10/8/2008	90	-	0.6	<0.5	<0.5	<1	<5	-	-	-	-	-	-
	4/14/2009	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/8/2011	247	-	9.3	<0.5	<0.5	<1	<0.5	-	-	-	-	-	-
	10/26/2011	190	-	1.7	<0.3	<0.3	<0.6	-	-	-	-	-	-	-
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-107	10/19/2006	320	-	430	290	33	140	-	-	-	-	-	-	-
	4/19/2007	7,400	-	3,400	150	140	140	<200	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	18,000	-	6,100	700	380	480	<50	-	-	-	-	-	-
	4/8/2011	20,400	-	15,100	<200	360	<400	<200	-	-	-	-	-	-
	10/26/2011	16,000	-	6,400	28	140	200	-	-	-	-	-	-	-
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-108	10/16/2006	3,400	-	790	46	<20	65	-	-	-	-	-	-	-
	4/19/2007	<20,000	-	5,400	<200	400	220	<400	-	-	-	-	-	-
	10/29/2007	310	-	55	3.2	10	14	1.9	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	2,200	-	1,100	24	26	140	<25	-	-	-	-	-	-
	10/9/2008	2,100	-	490	8.4	35	40	<12	-	-	-	-	-	-
	4/8/2011	4,000	-	1,640	10.8	123	84.2	89.6	-	-	-	-	-	-
	10/26/2011	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/30/2012	DRY												
	11/19/2012	DRY												
	6/25/2013	DRY												
	12/3/2013	DRY												
	6/17/2014	DRY												
MW-204	10/19/2006	5,800	-	560	420	110	580	-	-	-	-	-	-	-
	4/18/2007	<10,000	-	2,700	650	210	970	<200	-	-	-	-	-	-
	10/29/2007	710	-	18	9.9	11	34	<1	-	-	-	-	-	-
	12/20/2007	22,000	-	4,700	1,100	490	1,400	<800	-	-	-	-	-	-
	4/8/2008	9,800	-	1,800	340	520	560	<50	-	-	-	-	-	-
	10/8/2008	18,000	-	9,200	360	130	370	<100	-	-	-	-	-	-
	4/8/2011	2,520	-	1,140	27.8	72.8	30.6	<10	-	-	-	-	-	-
	10/26/2011	7,400	-	1,900	38	250	400	-	-	-	-	-	-	-

Table 4: Summary of Groundwater Analytical Data

Arrow Rentals
187 North L Street
Livermore CA
Project No. 1262.2

Wells	Date	TPH Gasoline ug/L	TPH Diesel ug/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L	MTBE ug/L	ETBE ug/L	DIPE ug/L	TAME ug/L	TBA ug/L	1,2 DCA ug/L	EDB ug/L
	5/30/2012	3,800	-	770	44	76	170	17	-	-	-	-	-	-
	11/19/2012	4,800	-	1,900	88	220	470	<20	-	-	-	-	-	-
	6/25/2013	3,500	-	660	27	230	310	<20	-	-	-	-	-	-
	12/5/2013	3,100	-	390	32	120	190	3.9	-	-	-	-	-	-
	6/17/2014	2,300	-	790	37	100	210	0.51	-	-	-	-	-	-
MW-205	10/16/2006	<2000	-	880	63	<20	54	-	-	-	-	-	-	-
	10/17/2006	5,100	-	2,000	190	52	220	-	-	-	-	-	-	-
	4/18/2007	<40,000	-	14,000	550	<400	<400	<800	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	31,000	-	20,000	640	510	1,400	<250	-	-	-	-	-	-
	4/8/2011	33,600	-	25,000	232	640	448	<200	-	-	-	-	-	-
	10/26/2011	26,000	-	11,000	130	240	300	-	-	-	-	-	-	-
	5/29/2012	40,000	-	15,000	150	860	1,100	<10	-	-	-	-	-	-
	11/21/2012	5,100	-	1,700	26	210	360	<20	-	-	-	-	-	-
	6/25/2013	37,000	-	13,000	120	900	970	57	-	-	-	-	-	-
	12/5/2013	12,000	-	3,400	30	270	370	28	-	-	-	-	-	-
	6/17/2014	9,900	-	4,300	63	200	120	41	-	-	-	-	-	-
MW-206	10/16/2006	<50	-	0.72	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	4/18/2007	<50	-	0.96	<0.5	<0.5	<0.5	<1	-	-	-	-	-	-
	12/19/2007	84	-	0.71	<0.5	<0.5	<1	<2	-	-	-	-	-	-
	4/8/2008	60	-	1.8	<0.5	<0.5	<1	<5	-	-	-	-	-	-
	4/8/2011	1,170	-	115	<10	<10	<20	<10	-	-	-	-	-	-
	10/26/2011	160	-	5.7	0.40	0.25	<0.6	-	-	-	-	-	-	-
	5/29/2012	1,500	-	250	100	38	170	-	-	-	-	-	-	-
	11/21/2012	73	-	1.4	<0.3	<0.3	<0.6	-	-	-	-	-	-	-
	6/24/2013	78	-	2.3	0.87	0.44	0.62	1.8	-	-	-	-	-	-
	12/4/2013	68	-	3	<0.5	<0.5	<1	1.2	-	-	-	-	-	-
	6/17/2014	73	-	0.87	<0.5	<0.5	<1	1.3	-	-	-	-	-	-
MW-207	10/19/2006	1,000	-	170	52	18	67	-	-	-	-	-	-	-
	4/18/2007	<25,000	-	9,700	480	<250	250	<500	-	-	-	-	-	-
	12/19/2007	DRY												
	4/7/2008	32,000	-	12,000	350	580	790	<250	-	-	-	-	-	-
	4/8/2011	19,500	-	15,000	<100	180	<200	108	-	-	-	-	-	-
	10/26/2011	18,000	-	7,600	38	160	280	-	-	-	-	-	-	-
	5/29/2012	24,000	-	11,000	87	310	340	190	-	-	-	-	-	-
	11/21/2012	21,000	-	14,000	65	310	190	140	-	-	-	-	-	-
	6/24/2013	25,000	-	12,000	77	300	180	120	-	-	-	-	-	-
	12/4/2013	13,000	-	7,200	68	330	210	93	-	-	-	-	-	-
	6/17/2014	6,600	-	5,900	53	240	110	84	-	-	-	-	-	-
MW-208	10/17/2006	1,500	-	520	39	<10	100	-	-	-	-	-	-	-
	4/19/2007	<10,000	-	2,500	<100	<100	<100	<200	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	19,000	-	3,900	230	550	1,200	<200	-	-	-	-	-	-
	4/8/2011	12,300	-	5,820	75	432	270	<50	-	-	-	-	-	-
	10/26/2011	7,400	-	1,600	97	60	210	-	-	-	-	-	-	-
	5/29/2012	11,000	-	2,600	42	220	170	<10	-	-	-	-	-	-
	11/21/2012	11,000	-	3,500	37	310	130	39	-	-	-	-	-	-
	6/24/2013	5,000	-	1,100	18	34	50	45	-	-	-	-	-	-
	12/4/2013	5,300	-	540	15	150	84	17	-	-	-	-	-	-
	6/17/2014	3,300	-	1,100	34	77	110	31	-	-	-	-	-	-
MW-304	10/19/2006	3,300	-	290	240	56	530	-	-	-	-	-	-	-
	4/19/2007	<10,000	-	3,100	450	<100	420	<200	-	-	-	-	-	-
	12/20/2007	1,500	-	380	43	32	110	<40	-	-	-	-	-	-
	4/7/2008	820	-	100	36	36	98	<5	-	-	-	-	-	-
	4/8/2011	2,880	-	657	32.3	93.5	262	<5	-	-	-	-	-	-
	10/26/2011	6,500	-	1,600	45	190	350	-	-	-	-	-	-	-
	5/30/2012	1,600	-	190	13	39	100	-	-	-	-	-	-	-
	11/19/2012	5,100	-	1,600	67	250	500	-	-	-	-	-	-	-
	6/25/2013	6,100	-	2,000	87	220	480	<20	-	-	-	-	-	-
	12/5/2013	1,600	-	270	31	94	230	<0.5	-	-	-	-	-	-
	6/17/2014	3,000	-	1,300	96	62	390	9	-	-	-	-	-	-
MW-305	10/16/2006	<50	-	1.8	<0.5	<0.5	0.67	-	-	-	-	-	-	-
	4/19/2007	<20,000	-	3,600	<200	<200	<200	<400	-	-	-	-	-	-
	12/19/2007	DRY												
	4/8/2008	290	-	42	14	8.1	28	<5	-	-	-	-	-	-
	4/8/2011	862	-	193	10.4	27.6	69.1	<5	-	-	-	-	-	-
	10/26/2011	1,300	-	280	37	20	49	-	-	-	-	-	-	-
	5/29/2012	920	-	260	3.6	18	30	-	-	-	-	-	-	-
	11/21/2012	3,700	-	1,300	17	170	230	-	-	-	-	-	-	-
	6/25/2013	1,800	-	560	12	41	75	<20	-	-	-	-	-	-
	12/4/2013	2,700	-	1,200	21	88	240	0.36	-	-	-	-	-	-
	6/17/2014	2,300	-	940	36	130	150	3.8	-	-	-	-	-	-
MW-306	10/16/2006	<50	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	4/18/2007	<50	-	3.1	<0.5	<0.5	<0.5	<1	-	-	-	-	-	-
	12/20/2007	<50	-	0.54	<0.5	<0.5	<1	<2	-	-	-	-	-	-
	4/7/2008	<50	-	<0.5	<0.5	<0.5	<1	<5	-	-	-	-	-	-
	4/8/2011	<50	-	10.4	<0.5	<0.5	<1	<0.5	-	-	-	-	-	-
	10/26/2011	75	-	0.5	<0.3	<0.3	<0.6	-	-	-	-	-	-	-
	5/30/2012	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/21/2012	44	-	1.2	<0.3	<0.3	<0.6	-	-	-	-	-	-	-
	6/24/2013	<50	-	0.8	<0.3	<0.3	0.24	<1	-	-	-	-	-	-
	12/4/2013	47	-	<0.5	<0.5	<0.5	<1	<0.5	-	-	-	-	-	-
	6/17/2014	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-307	10/19/2006	<50	-	2.3	1.5	<0.5	4.7	-	-	-	-	-	-	-
	4/18/2007	<4000	-	1,300	250	78	310	<80	-	-	-	-	-	-
	12/19/2007	1,500	-	200	50	59	140	<40	-	-	-	-	-	-
	4/7/2008	2,500	-	720	110	69	160	<25	-	-	-	-	-	-
	4/8/2011	70	-	24.3	3.8	0.6	3.3	<0.5	-	-	-	-	-	-
	10/26/2011	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/29/2012	2,000	-	540	4.2	57	110	4.5	-	-	-	-	-	-
	11/19/2012	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/24/2013	1,300	-	480	7.2	43	54	<20	-	-	-	-	-	-
	12/3/2013	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/17/2014	1,100	-	520	8	43	28	1.6	-	-	-	-	-	-
MW-308	10/16/2006	<50	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	4/19/2007	<10,000	-	1,600	<100	<100	<100	<200	-	-	-	-	-	-
	12/19/2007	190	-	25	1.5	7.2	8.4	<4	-	-	-	-	-	-
	4/7/2008	770	-	150	10	48	45	<5	-	-	-	-	-	-
	4/8/2011	3,240	-	1,230	18.6	187	125	<10	-	-	-	-	-	-
	10/26/2011	2,900	-	610	9.2	73	53	-	-	-	-	-	-	-
	5/29/2012	1,200	-	89	5.1	18	25	-	-	-	-	-	-	-
	11/21/2012	4,800	-	930	46	160	210	-	-	-	-	-	-	-
	6/24/2013	2,600	-	610	22	110	87	<20	-	-	-	-	-	-
	12/12/2013	3,200	-	520	14	140	75	0.6	-	-	-	-	-	-
	6/17/2014	3,000	-	1,300	20	110	58	9.1	-	-	-	-	-	-
MW-404	10/19/2006	1,700	-	120	73	27	280	-	-	-	-	-	-	-
	4/18/2007	<10,000	-	1,400	440	130	550	<200	-	-	-	-	-	-
	12/19/2007	2,200	-	160	63	92	300	<40	-	-	-	-	-	-
	4/8/2008	DRY												
	4/8/2011	119	-	90.8	1.4	1.0	2.6	<0.5	-	-	-	-	-	-
	10/26/2011	1,500	-	400	9.1	46	65	-	-	-	-	-	-	-
	5/30/2012	1,200	-	260	11	34	80	-	-	-	-	-	-	-
	11/19/2012	1,100	-	230	<6.0	46	84	-	-	-	-	-	-	-
	6/25/2013	98	-	840	22	60	140	<20	-	-	-	-	-	-
	12/5/2013	2,500	-	540	57	140	290	3.2	-	-	-	-	-	-
	6/17/2014	6,500	-	4,500	100	130	240	21	-	-	-	-	-	-

pre- 2006 data adapted from *Environmental Sampling Services* 5/27/04 Groundwater Monitoring Report
"-" = not analyzed

Table 5: Summary of Field Parameters

Arrow Rentals
187 North L Street
Livermore, California
Project No. 1262.2

Monitoring Well	W-1s					W-3s					W-Bs					W-Es				
	pH	E.C.	Temp	ORP	DO	pH	E.C.	Temp	ORP	DO	pH	E.C.	Temp	ORP	DO	pH	E.C.	Temp	ORP	DO
Date			°C					°C					°C					°C		
7/7/2006	-	-	-	-128.5	0.13	-	-	-	-	0.07	-	-	-	-107.3	0.09	7.05	339	20.9	32.9	0.06
12/29/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/8/2008	6.76	514	24.8	-95.5	-	-	-	-	-	-	-	-	-	-	0.28	7.07	503	25.1	121.4	6.85
10/8-9/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/7-8/2011	6.17	967	19.1	-221.5	0.37	6.63	964	18.1	40.7	0.72	6.61	780	18.5	-198.2	0.02	7.03	790	19.5	141.3	1.06
10/26/2011	6.65	1012	18.1	-121.5	0.16	6.65	914	17.9	-57.6	0.52	6.51	722	17.6	-115.8	0.38	-	-	-	-	-
5/30/2012	6.60	1574	21.4	-351.9	0.00	6.89	761	20.3	-66.9	0.11	6.88	676	20.9	-87.3	0.79	-	-	-	-	-
11/19/2012	6.16	1301	18.6	-119.7	0.06	6.75	834	17.2	-65.1	0.19	7.04	825	17.2	-39.2	0.18	-	-	-	-	-
6/24/2013	6.71	1333	21.9	-159.8	0.07	6.43	1243	20.3	-60.2	1.03	6.75	919	21.2	-92.1	0.84	7.09	951	21.8	160.6	0.61
12/3-5/2013	6.73	1086	20.4	-50.0	0.35	6.57	1003	18.4	72.8	1.27	6.86	810	19.4	-53.1	1.19	-	-	-	-	-
6/17/2014	6.47	1309	21.3	-79.0	0.31	-	-	-	-	-	7.05	803	21.0	-50.1	1.64	-	-	-	-	-

Monitoring Well	W-1					W-3					W-A				
	pH	E.C.	Temp	ORP	DO	pH	E.C.	Temp	ORP	DO	pH	E.C.	Temp	ORP	DO
Date			°C					°C					°C		
4/7-8/2011	6.30	917	19.0	-164.3	0.40	6.94	928	18.3	-185.7	0.10	6.85	907	18.9	-254.5	0.04
10/26/2011	6.45	1073	17.8	-60.9	0.20	-	-	-	-	-	6.70	1019	18.0	-120.2	0.15
5/30/2012	6.71	1062	20.7	-98.7	0.95	-	-	-	-	-	6.83	1127	20.3	-90.3	0.15
11/19/2012	7.04	965	17.3	-97.0	0.12	-	-	-	-	-	6.92	1185	18.0	-139.9	0.17
6/24/2013	6.73	1156	20.5	-110.6	0.28	-	-	-	-	-	6.84	1255	20.5	-124.1	1.85
12/3-5/2013	6.82	1051	20.5	-135.6	0.16	-	-	-	-	-	7.03	1210	20.2	-118.1	0.70
6/17/2014	6.70	1097	21.1	-101.3	0.18						6.42	1352	20.7	-135.0	0.17

" - " = insufficient data no result reported

Table 6: TPH-G Mass Removal Calculations: Groundwater

Sullins (Arrow Rentals)
187 North "L" Street
Livermore, CA
Project No.: 1262.2

Date/Time	Hours			GW Removed		Lab	Removal Calculations				Mass Removal Totals	
	Meter	Cumulative	in period	Cummulative (gallons)	In Period (gallons)	(ug/L)	(grams/L)	(grams/gal.)	(lbs./gal.)	(lbs./period)	cumulative pounds	cumulative gallons
Start-Up	11/15/11 @ 0700										-	-
12/7/2011	10428.3	0.0	-	0	-	-	-	-	-	0.00	-	-
12/13/2011	10441.8	13.5	695.1	1060	1060	2400	0.00240	0.00063	0.00000140	0.67	0.67	0.11
1/13/2012	11136.9	708.6	106.9	1378	67	6400	0.00640	0.00169	0.00000373	0.11	0.79	0.13
1/18/2012	11243.8	815.5	11.7	1445	1735	3800	0.00380	0.00100	0.00000221	1.74	2.53	0.41
1/19/2012	11255.5	827.2	585.7	3180	4520	2800	0.00280	0.00074	0.00000163	3.34	5.87	0.95
3/8/2012	11841.2	1412.9	624.6	7700	12173	190	0.00019	0.00005	0.00000011	0.61	6.48	1.05
4/3/2012	12465.8	2037.5	719.8	19873	18435	810	0.00081	0.00021	0.00000047	3.94	10.43	1.70
5/3/2012	13185.6	2757.3	310.6	38308	5546	1000	0.00100	0.00026	0.00000058	1.47	11.89	1.93
5/16/2012	13496.2	3067.9	1.8	43854	139	2800	0.00280	0.00074	0.00000163	0.10	11.99	1.95
6/7/2012	13498.0	3069.7	163.2	43993	2176	5000	0.00500	0.00132	0.00000291	2.87	14.87	2.42
7/9/2012	13661.2	3232.9	707.9	46169	9396	2600	0.00260	0.00069	0.00000151	6.45	21.32	3.47
8/16/2012	14369.1	3940.8	671.4	55565	13607	2300	0.00230	0.00061	0.00000134	8.27	29.59	4.81
9/13/2012	15040.5	4612.2	32.3	69172	1488	1800	0.00180	0.00048	0.00000105	0.71	30.30	4.93
10/16/2012	15072.8	4644.5	459.2	70660	13308	1800	0.00180	0.00048	0.00000105	6.33	36.63	5.96
12/13/2012	15532.0	5103.7	574.6	83968	0	1800	0.00180	0.00048	0.00000105	0.00	36.63	5.96
2/4/2013	16106.6	5678.3	6.5	83968	712	1300	0.00130	0.00034	0.00000076	0.24	36.87	6.00
2/14/2013	16113.1	5684.8	0.8	84680	0	1300	0.00130	0.00034	0.00000076	0.00	36.87	6.00
4/10/2013	16113.9	5685.6	208.0	84680	1373	2000	0.00200	0.00053	0.00000116	0.73	37.59	6.11
4/26/2013	16321.9	5893.6	167.6	86053	757	2000	0.00200	0.00053	0.00000116	0.40	37.99	6.18
5/3/2013	16489.5	6061.2	37.0	86810	2328	1600	0.00160	0.00042	0.00000093	0.98	38.98	6.34
5/16/2013	16526.5	6098.2	58.1	89138	3026	1600	0.00160	0.00042	0.00000093	1.28	40.26	6.55
6/6/2013*	16584.6	6156.3	144.5	92164	4762	2071	0.00207	0.00055	0.00000121	2.61	42.86	6.97
6/26/2013*	16729.1	6300.8	665.7	96926	37081	2071	0.00207	0.00055	0.00000121	20.29	63.15	10.27
7/31/2013*	17394.8	6966.5	530.0	134007	12666	2071	0.00207	0.00055	0.00000121	6.93	70.08	11.40
8/22/2013*	17924.8	7496.5	285.8	146673	23541	2071	0.00207	0.00055	0.00000121	12.88	82.96	13.49
9/3/2013	18210.6	7782.3	412.1	170214	0	1200	0.00120	0.00032	0.00000070	0.00	82.96	13.49
9/27/2013	18622.7	8194.4	334.0	170214	32207	1300	0.00130	0.00034	0.00000076	11.06	94.02	15.29
10/11/2013	18956.7	8528.4	264.1	202421	0	870	0.00087	0.00023	0.00000051	0.00	94.02	15.29
10/22/2013	19220.8	8792.5	363.0	202421	34399	1700	0.00170	0.00045	0.00000099	15.45	109.47	17.80
11/6/2013	19583.8	9155.5	697.0	236820	0	1400	0.00140	0.00037	0.00000082	0.00	109.47	17.80
1/15/2014	20280.8	9852.5	359.0	236820	25360	2600	0.00260	0.00069	0.00000151	17.42	126.89	20.63
1/30/2014	20639.8	10211.5	288.0	262180	0	2500	0.00250	0.00066	0.00000146	0.00	126.89	20.63
2/11/2014	20927.8	10499.5	335.5	262180	5339	1700	0.00170	0.00045	0.00000099	2.40	129.28	21.02
2/25/2014	21263.3	10835.0	3.0	267519	186	1700	0.00170	0.00045	0.00000099	0.08	129.37	21.04
3/18/2014	21266.3	10838.0	335.0	267705	22003	2600	0.00260	0.00069	0.00000151	15.11	144.48	23.49
4/1/2014	21601.3	11173.0	2.5	289708	315	340	0.00034	0.00009	0.00000020	0.03	144.51	23.50
4/15/2014	21603.8	11175.5	310.6	290023	17723	2000	0.00200	0.00053	0.00000116	9.36	153.87	25.02
4/28/2014	21914.4	11486.1	1.6	307746	0	1800	0.00180	0.00048	0.00000105	0.00	153.87	25.02
5/9/2014	21916.0	11487.7	52.0	307746	0	2300	0.00230	0.00061	0.00000134	0.00	153.87	25.02
5/12/2014	21968.0	11539.7	-	307746	-	-	-	-	-	-	-	-
										Total Mass Removed via GW 12/07/11 thru 5/12/14	153.9	25.0
										Total Mass Removed via GW 11/6/13 thru 5/12/14	44.4	7.2

* = TPH-G concentration for this date is an average of the lab data

Table 7: Mass Removal Calculations: Soil Vapor

Sullins (Arrow Rentals)
187 North "L" Street
Livermore, CA
Project No.: 1262.2

Date/Time	Wells	Hours			Lab	PID	Air Flow	Removal Calculations					Mass Removal Totals	
		Meter	Cumulative	in period	(mg/m3)	(ppm)	(cfm)	(mg/ft3)	(lbs./ft3)	(lbs./min)	(lbs./hour)	(lbs./period)	cumulative lbs.	cumulative gal.
Start-Up	11/15/11 @ 0700													
11/15/2011	W-1s & EW-1	10378.5	0	-	-	-	-	-	-	-	-	0	-	-
11/15/2011	W-1s & EW-1	10381.5	27.6	27.6	68197.1	4800	78	1931.11	0.004257	0.3321	19.924	549.9	549.9	89.4
11/16/2011	W-1s & EW-1	10409.1	28.0	0.4	28139.9	2000	125	796.83	0.001757	0.2195	13.175	5.3	555.2	90.3
11/29/2011	W-1s & EW-1	10409.5	46.8	18.8	24706.4	1760	75	699.60	0.001542	0.1157	6.941	130.5	685.7	111.5
12/7/2011	W-1s & EW-1	10428.3	55.7	8.9	4234.3	329	131	119.90	0.000264	0.0346	2.078	18.5	704.2	114.5
12/8/2011	W-1s & EW-1	10437.2	60.3	4.6	**2380.0**	200	90	67.39	0.000149	0.0134	0.802	3.7	707.9	115.1
12/13/2011	W-1s only	10441.8	67.3	7.0	8197.1	606	137	232.11	0.000512	0.0701	4.206	29.4	737.3	119.9
12/14/2011	W-1s & W-1	10448.8	435.5	368.2	11816.6	859	100	334.61	0.000738	0.0738	4.426	1629.7	2367.0	384.9
12/30/2011	W-1s only	10817.0	579.2	143.7	8182.8	605	96	231.71	0.000511	0.0490	2.942	422.8	2789.8	453.6
1/5/2012	W-1s only	10960.7	698.0	118.8	**3360.0**	262	136	95.14	0.000210	0.0285	1.712	203.3	2993.1	486.7
1/10/2012	W-1s only	11079.5	755.4	57.4	7939.6	588	161	224.82	0.000496	0.0798	4.788	274.8	3268.0	531.4
1/13/2012	W-1s only	11136.9	874.0	118.6	11087.0	808	133	313.95	0.000692	0.0921	5.523	655.1	3923.0	637.9
1/19/2012	W-1s only	11255.5	1040.2	166.2	12617.7	915	98	357.29	0.000788	0.0772	4.632	769.8	4692.8	763.1
1/26/2012	W-1s only	11421.7	1147.8	107.6	3776.5	297	149	106.94	0.000236	0.0351	2.108	226.8	4919.6	799.9
1/31/2012	W-1s & W-1	11529.3	1151.0	3.2	3862.4	303	141	109.37	0.000241	0.0349	2.040	6.5	4926.1	801.0
Shut Down	1/31/2012 @ 1550 to 2/24/2012 @ 1330													
2/24/2012	W-1s & W-1	11532.5	1459.7	308.7	11845.2	861	84	335.42	0.000739	0.0621	3.727	1150.5	6076.6	988.1
3/8/2012	W-1s & W-1	11841.2	1774.7	315.0	**3490.0**	282	152	98.82	0.000218	0.0331	1.987	625.9	6702.5	1089.8
3/21/2012	W-1s & W-1	12156.2	2084.3	309.6	2288.7	193	158	64.81	0.000143	0.0226	1.354	419.3	7121.9	1158.0
4/3/2012	W-1s & W-1	12465.8	2469.3	385.0	2145.6	183	145	60.76	0.000134	0.0194	1.165	448.7	7570.5	1231.0
4/19/2012	W-1s & W-1	12850.8	2804.1	334.8	2288.7	193	132	64.81	0.000143	0.0189	1.132	378.9	7949.4	1292.6
5/3/2012	W-1s & W-1	13185.6	3114.7	310.6	915.3	97	130	25.92	0.000057	0.0074	0.446	138.4	8087.8	1315.1
5/16/2012	W-1s & W-1	13496.2	3116.5	1.8	**251.0**	51.1	99	7.11	0.000016	0.0016	0.093	0.2	8088.0	1315.1
Shut Down	5/16/2012 @ 1025 to 6/07/2012 @ 0940													
6/7/2012	W-1s & W-1	13498.0	3186.7	70.2	2345.9	197.0	88	66.43	0.000146	0.0129	0.773	54.3	8142.2	1323.9
6/20/2012	W-1s & W-1	13568.2	3278.3	91.6	1687.8	151.0	128	47.79	0.000105	0.0135	0.809	74.1	8216.4	1336.0
7/5/2012	EW-1 & W-1	13659.8	3279.7	1.4	673.5	80.1	105	19.07	0.000042	0.0044	0.265	0.4	8216.7	1336.1
7/9/2012	EW-1 & W-1	13661.2	3292.2	12.5	705.0	82.3	93	19.96	0.000044	0.0041	0.246	3.1	8219.8	1336.6
7/18/2012	EW-1 & W-1	13673.7	3602.4	310.2	481.8	66.7	95	13.64	0.000030	0.0029	0.171	53.2	8273.0	1345.2
7/31/2012	EW-1 & W-1	13983.9	3987.6	385.2	6509.0	488.0	85	184.31	0.000406	0.0345	2.072	798.3	9071.3	1475.0
8/16/2012	EW-1 & W-1	14369.1	4346.8	359.2	3032.6	245.0	89	85.87	0.000189	0.0168	1.011	363.1	9434.4	1534.0
8/31/2012	W-1s & EW-1	14728.3	4659.0	312.2	3519.0	279.0	129	99.65	0.000220	0.0283	1.700	530.8	9965.2	1620.4
9/13/2012	W-1s & EW-1	15040.5	4686.7	27.7	25.5	34.8	121	0.72	0.000002	0.0002	0.012	0.3	9965.6	1620.4
Shut Down	9/14/2012 @ ~1900 due to low pressure alarm													
10/1/2012	W-1 & W-A	15068.2	4691.3	4.6	2675.0	220.0	120	75.75	0.000167	0.0200	1.202	5.5	9971.1	1621.3
Shut Down	9/14/2012 @ ~1400 due to low pressure alarm													
10/16/2012	W-1 & W-A	15072.8	5050.8	359.5	1087.0	109.0	98	30.78	0.000068	0.0066	0.397	142.7	10113.8	1644.5
10/31/2012	W-1 & W-A	15432.3	5149.7	98.9	2374.5	199.0	108	67.24	0.000148	0.0160	0.961	95.0	10208.8	1660.0
Shut Down	11/4/2012 @ 1400 and was left off until 12/13/2012 @ 1245 in order to perform the 4th Quarter groundwater monitoring event													
11/16/2012*	W-1 & W-A	15531.2	5150.5	0.8	2045.5	176.0	108	57.92	0.000128	0.0138	0.827	0.7	10209.5	1660.1
12/13/2012	W-1 & W-A	15532.0	-	-	521.9	69.5	130	14.78	0.000033	0.0042	-	-	-	-
Shut Down	12/13/2012 thru 1/10/13 due to malfunction of propane regulating system													
1/10/2013	-	15532.0	5294.1	143.6	-	-	-	-	-	-	-	-	-	-
1/17/2013	W-1s & EW-1	15675.6	5725.1	431.0	311.6	54.8	138.0	8.82	0.000019	0.0027	0.161	69.4	10278.9	1671.4
2/4/2013	W-1s & EW-1	16106.6	5731.8	6.7	20.1	23.2	180.0	0.57	0.000001	0.0002	0.014	0.1	10279.0	1671.4
2/14/2013	W-1 & W-A	16113.3	5737.5	5.7	3061.2	247.0	80.0	86.68	0.000191	0.0153	0.917	5.2	10284.2	1672.2
Shut Down	2/14/13 thru 4/10/13 due to liquid ring pump failure and repairs (see Section 5.1)													
4/11/2013	W-1 & W-A	16119.0	5940.4	202.9	2374.5	199.0	56.0	67.24	0.000148	0.0083	0.498	101.1	10385.3	1688.7
Shut Down	4/19/13 due to a high water alarm in the air stripper tank													
4/26/2013	W-1s & EW-1	16321.9	6108.0	167.6	215.7	48.1	141.0	6.11	0.000013	0.0019	0.114	19.1	10404.4	1691.8
5/3/2013	W-1 & W-A	16489.5	6145.0	37.0	2049.8	176.3	78.0	58.04	0.000128	0.0100	0.599	22.2	10426.5	1695.4
Shut Down	5/8/13 due to a low air pressure alarm													
5/16/2013	W-1 & W-A	16526.5	6203.1	58.1	157.1	44.0	58.0	4.45	0.000010	0.0006	0.034	2.0	10428.5	1695.7
Shut Down	5/23/13 thru 6/6/2013 due to bad KO tank pump and repairs													
6/6/2013	W-1 & W-A	16584.6	6347.6	144.5	24.1	30.6	41.0	0.68	0.000002	0.0001	0.004	0.5	10429.0	1695.8
Shut Down	6/12/13 thru 6/26/13 for 2nd Quarter GWM event													
6/26/2013	W-1 & W-A	16729.1	6534.6	187.0	2331.6	196.0	46.0	66.02	0.000146	0.0067	0.402	75.1	10504.2	1708.0
7/11/2013	W-1 & W-A	16916.1	6869.1	334.5	1802.3	159.0	42.0	51.03	0.000113	0.0047	0.284	94.8	10599.0	1723.4
7/25/2013	W-1 & W-A	17250.6	7013.3	144.2	1031.2	105.1	107.5	29.20	0.000064	0.0069	0.415	59.9	10658.9	1733.2
7/31/2013	W-1 & W-A	17394.8	7205.8	192.5	572.0	73.0	110.0	16.20	0.000036	0.0039	0.236	45.4	10704.2	1740.5
8/8/2013	EW-1 & W-1s	17587.3	7543.3	337.5	119.5	27.3	145.0	3.38	0.000007	0.0011	0.065	21.9	10726.1	1744.1
8/22/2013	W-1 & W-A	17924.8	7684.4	141.1	**410.0**	85.4	73.0	11.61	0.000026	0.0019	0.112	15.8	10742.0	1746.7
8/28/2013	W-1 & W-A	18065.9	7829.1	144.7	484.5	117.0	89.0	13.72	0.000030	0.0027	0.161	23.4	10765.3	1750.5
9/3/2013	W-1 & W-A	18210.6	8237.8	408.7	**710.0**	79.8	70.0	20.10	0.000044	0.0031	0.186	76.1	10841.4	1762.8
9/20/2013	EW-1 & W-1s	18619.3	8241.2	3.4	**330.0**	42.4	127.0	9.34	0.000021	0.0026	0.157	0.5	10842.0	1762.9
Shut Down	9/21/13 thru 9/27/13 due to low propane													
9/27/2013	W-1 & W-A	18622.7	8407.0	165.8	346.5	83.1	75.0	9.81	0.000022	0.0016	0.097	16.1	10858.1	1765.5
10/4/2013	W-1 & W-A	18788.5	8575.2	168.2	307.1	73.4	102.5	8.70	0.000019	0.0020	0.118	19.8	10877.9	1768.8
10/11/2013	EW-1 & W-1s	18956.7	8839.3	264.1	**91.0**	35.8	90.0	2.58	0.000006	0.0005	0.031	8.1	10886.0	1770.1
10/22/2013	W-1 & W-A	19220.8	9080.2	240.9	**410.0**	142.4	70.0	11.61	0.000026	0.0018	0.107	25.9	10911.9	1774.3
11/1/2013	W-1 & W-A	19461.7	9202.3	122.1	439.7	106.0	77.5	12.45	0.000027	0.0021	0.128	15.6	10927.5	1776.8
11/6/2013	W-1 & W-A	19583.8	9585.9	383.6	**120.0**	63.8	80.0	3.40	0.000007	0.0006	0.036	13.8	10941.3	1779.1
11/22/2013	EW-1 & W-1s	19967.4	9586.1	0.2	184.6	43.3	88.0	5.23	0.000012	0.0010	0.061	0.0	10941.3	1779.1
Shut Down	11/22/13 thru 12/05/13 for 4th Quarter GWM event													
12/5/2013	EW-1 & W-1s	19967.6	-	-	218.0	51.5	95.0	6.17	0.000014	0.0013	0.078	-	10941.3	1779.1
Shut Down	12/5/13 thru 1/2/14 due to low air pressure alarm, repairs and maintenance - restarted 1/2/14													
1/2/2014	EW-1 & W-1s	19667.9	10199.0	612.9	257.8	61.3	85	7.30	0.000016	0.0014	0.082	50.3	10991.6	1787.3
1/15/2014	W-1 & W-A	20280.8	10389.9	190.9	**1800**	243.0	100	50.97	0.000112	0.0112	0.674	128.7	11120.3	1808.2
1/23/2014	W-1 & W-A	20471.7	10558.0	168.1	1106.9	270.0	80	31.34	0.000069	0.0055	0.332	55.8	11176.1	1817.3
1/30/2014	EW-1 & W-1s	20639.8	10846.0	288.0	**180**	242.0	87.5	5.10	0.000011	0.0018	0.059	17.0	11193.1	1820.0
2/11/2014	W-1 & W-A	20927.8	11181.5	335.5	**200**	149.2	102.5	5.66	0.000012	0.0013	0.077	25.8	11218.8	1824.2
2/25/2014	W-1 & W-A	21263.3	11184.5	3.0	754.6	183.4	90	21.37	0.000047	0.0042	0.254	0.8	11219.6	1824.3
Shut Down	pulse mode 2/25/14 thru 3/18/2014													
3/18/2014	W-1 & W-A	21266.3	11519.5	335.0	**890**	-	28	25.20	0.000056	0.0016	0.093	31.3	11250.9	1829.4
4/1/2014	W-1 & W-A	21601.3	11522.0	2.5	**85**	-	102.5	2.41	0.000005	0.0005	0.033	0.1	11251.0	1829.4
Shut Down	pulse mode 4/1/14 thru 4/15/2014													
4/15/2014	W-1 & W-A	21603.8	11832.6	310.6	**1100**	99.9	28	31.15	0.000069	0.0019	0.115	35.8	11286.8	1835.3
4/28/2014	W-1 & W-A	21914.4	11834.2	1.6	**560**	108.0	125	15.86	0.000035	0.0044	0.262	0.4	11287.2	1835.3
Shut Down	pulse mode 4/28/14 thru 5/9/2014													
5/9/2014	W-1 & W-A	21916.0	11886.2	52.0	**1000**	159.0	95	28.32	0.000062	0.0059	0.356	18.5	11305.7	1838.3
5/12/2014	W-1 & W-A	21968.0	-	-	shut down on 5/12/14 for 2nd QTR 2014 GWM									

TOTAL Mass Removed 11/15/11 thru 5/12/14	11305.7	1838.3
TOTAL Mass Removed Between 1/2/14 & 5/12/14	364.4	59.3

* = PID concentration a extraction flow rate an average of previous 3 events due to system shut down

120.0 = bold lab values are actual laboratory analyses results, non-bold values are calculated based on the correlation equation determined

Table 8: Summary of DPE System Groundwater Extraction Data

Arrow Rentals
187 North L Street
Livermore CA
Project No. 1262.2

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH-Gasoline	MTBE
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
GW-INF	12/13/2011	110	9.4	2.5	510	2,400	-
(GW INF KO)	1/13/2012	110	120	74	510	6,400	-
(W-1 & W-A)	1/18/2012	44	54	39	360	3,800	-
	1/19/2012	37	43	39	280	2,800	-
	3/8/2012	7.3	8.3	2.3	19	190	-
	4/3/2012	8.6	9.7	3.4	36	810	-
	5/3/2012	300	160	26	280	2,800	-
	6/7/2012	72	89	23	260	5,000	-
	7/9/2012	110	51	21	120	2,600	-
	8/16/2012	47	35	19	99	2,300	-
	9/13/2012	74	26	14	70	1,800	-
	10/16/2012	140	44	46	110	1,800	-
	2/4/2013	130	40	32	110	1,300	-
	4/10/2013	200	58	48	160	2,000	
	5/7/2013	<0.3	<0.3	<0.3	<0.6	<50	-
	5/16/2013	96	30	32	110	1,600	5.5
	8/22/2013	<0.3	<0.3	<0.3	<0.6	<50	-
	9/3/2013*	190	35	26	150	1,200	-
	9/27/2013	94	30	12	120	1,300	-
	10/11/2013*	99	18	24	88	870	-
	10/22/2013	130	62	30	210	1,700	-
	11/6/2013*	120	22	35	140	1,400	-
	1/15/2014	43	18	19	150	2,600	-
	1/30/2014	98	30	45	170	2,500	2.4
	2/11/2014	100	35	20	150	1,700	<12
	2/25/2014	150	45	27	180	1,700	4.2
	3/18/2014	61	14	18	80	2,600	-
	4/15/2014	52	10	14	53	2,000	-
	4/1/2014	19	2.6	4.9	19	340	-
	4/28/2014	17	3	7.7	22	1,800	-
	5/9/2014	98	22	33	120	2,300	3.4
	6/26/2014	17	1	2.5	9.1	610	0.87
	7/10/2014	96	17	34	170	2,000	ND<0.5
W-1 GW-INF	5/16/2013	96	30	32	110	1,600	5.5
W-A GW-INF	5/16/2013	67	15	16	54	1,000	2.6

* = sample collected following 2 weeks of extraction from the upper/lower zone

Table 9: Summary of DPE System Soil Vapor Extraction Data

Arrow Rentals
187 North L Street
Livermore CA
Project No. 1262.2

Well	Date	TPH-Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	PID
		mg/m^3	mg/m^3	mg/m^3	mg/m^3	mg/m^3	ppm
SVE-INF	12/8/2011	2380	7.1	5.6	2.9	15.5	200
	1/5/2012	3360	29.8	15.8	23.6	70.4	262
	3/8/2012	3490	30.4	28.6	12	55.2	282
	5/16/2012	251	7.86	4.43	2.34	9.56	51.1
	4/11/2013	37	13	2.9	2.1	5.9	-
SVE-INF UPPER	8/22/2013*	13	0.064	0.076	0.0096	0.078	12.5
(EW-1 & W-1s)	9/3/2013	130	2.2	2.2	4.3	19	23.8
	9/20/2013*	330	0.85	1.5	<2.5	1.3	36.9
	10/11/2013	91	2.4	1.6	4.0	14	32.9
	10/22/2013*	210	1.5	3.7	<2.5	2.6	51.1
	11/6/2013	44	0.77	1.2	3.7	12	35.9
	1/15/2014*	600	1.3	1.2	0.09	1.3	72.9
	1/30/2014	31	1.5	2.6	0.19	0.32	85.2
	2/11/2014*	250	0.72	0.79	0.093	0.52	45.1
SVE-INF LOWER	8/22/2013	410	59	13	4.9	22	73.6
(W-1 & W-A)	9/3/2013*	710	38	9.5	8.3	28	81.4
	9/20/2013	-	-	-	-	-	-
	10/11/2013*	99	12	2.7	3.1	8.6	69.1
	10/22/2013	410	29	7.1	0.87	4.2	130
	11/6/2013*	120	15	4.5	7.7	22	60.9
	1/15/2014	1,800	50	12	2.2	12	205
	1/30/2014*	180	19	42	2	3.7	220
	2/11/2014	200	<1	3.2	0.44	1.5	149.2
	3/18/2014	0.89	<20	0.01	0.011	0.041	-
	4/1/2014	85	16	1.8	4.6	10	-
	4/15/2014	1,100	46	11	17	49	99.9
	4/28/2014	560	21	4.5	4.3	12	-
	5/9/2014	1,000	76	12	13	28	159
	6/26/2014	1,200	15	1.7	1.9	5.6	290
	7/10/2014	170	7.5	8.5	11	31	-
W-1 SVE-INF	5/16/2013	100	16	4.8	5.2	11	48.1
W-A SVE-INF	5/16/2013	39	2.3	0.64	0.83	1.7	16.1
EW-1 SVE-INF	5/16/2013	22	0.065	0.069	0.12	0.54	7.6
W-1s SVE-INF	5/16/2013	85	<0.08	0.16	0.35	1.4	32.6

* = sample collected following 2 weeks of extraction from the upper/lower zone

Appendix B

Laboratory Analytical Data Sheets

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 02/07/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1402203
Invoice ID:	B165814

Enclosed are the results of analyses for samples received by the laboratory on 1/30/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.

Ground Zero Analysis, Inc. (GZA)
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gti@gtienv.com

Page 1 of 1

Chain of Custody

#14-02203

Billing To: Ground Zero Analysis, Inc.

Project #: 1262.2
Project Name: SULLINS
Site Address: 187 NORTH L STREET, LIVERMORE, CA
Global ID No.: T0600100116
EDF Report: ☐ Yes ☒ No
Client: GZA / Geological Technics
Rpt Attn: GZA / GT
Client Address: 1172 Kansas Avenue
Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351
Client Email: gti@gtienv.com
Client Phone: (209) 522-4119
Client Fax: (209) 522-4227
Sampling Info: Sampled By (initials): AD, GZA / GT

Laboratory: BC LABS
Purchase Order #: 1262-703276
Turnaround Time: 1 day 2 day 3 day 5 day (S = Standard)
Email Lab Report (.pdf): ☒ Yes ☐ No
Email EDF Lab Report (.zip): ☐ Yes ☐ No
Mail Lab Report: ☐ Yes ☐ No

Analysis Requested

	Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	TPH-G + BTEX (TO-15)	TPH-G, BTEX, MTBE (8260)	Special Instructions / Remarks
-1	1-30-14	1135		GW-INF	4	W	HCL		X	
-2	↓	1200		SVE-INF LOWER	1	G	NONE	X		
-3	↓	1225		SVE-INF UPPER	1	G	NONE	X		

CHK BY: [illegible] DISTRIBUTION: [illegible] SUB-OUT ☐

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by: [signature]	ANDREW DORN	GZA	1-30-14	1415
Received / Relinquished by: [signature]	Ross Dickey	BC LAB	1-30-14	1415
Received / Relinquished by: [signature]	Ross Dickey	BC LAB	1-30-14	1730

Please return cooler / ice chest to GZA / Geological Technics

[illegible] 1-30-14

REC [signature] BCLAB 1-30-14 1730
REL [signature] BCLAB 1830 REC [illegible]
Rec: [illegible] 1-30-14 2205

Rev. 2/2013

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1402203 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 14-02203

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑YES ☐ NO

Emissivity: 0.96 Container: DtPE Thermometer ID: 207 Date/Time 1-30-14 2205

Temperature: (A) 0.9 °C / (C) 0.9 °C Analyst Init SKS

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A (4)	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Chain of Custody and Cooler Receipt Form for 1402203 Page 3 of 3

BC LABORATORIES INC. **COOLER RECEIPT FORM** Rev. No. 15 07/01/13 Page 2 Of 2

Submission #: 14-02203

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery	Ice Chest ☑ None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify) Bag	

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0 Container: Tedlar Thermometer ID: 0 Date/Time 1.30.14 2205

Temperature: (A) Room °C / (C) Temp °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
~~PT PE UNPRESERVED~~ Tedlar [x68]		A	A							
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
2 OZ. JAR										
OIL SLEEVE										
VOA VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: AG Date/Time: 1.30.14 2235

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1402203-01	**COC Number:**	---	**Receive Date:** 01/30/2014 22:05
	Project Number:	Sullins	**Sampling Date:** 01/30/2014 11:35
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	GW-INF	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): GW-INF
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1402203-02	**COC Number:**	---	**Receive Date:** 01/30/2014 22:05
	Project Number:	Sullins	**Sampling Date:** 01/30/2014 12:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	SVE-INF Lower	**Lab Matrix:** Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Vapor or Air
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): SVE-INF Lower
			Matrix: GS
			Sample QC Type (SACode): CS
			Cooler ID:
1402203-03	**COC Number:**	---	**Receive Date:** 01/30/2014 22:05
	Project Number:	Sullins	**Sampling Date:** 01/30/2014 12:25
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	SVE-INF Upper	**Lab Matrix:** Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Vapor or Air
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): SVE-INF Upper
			Matrix: GS
			Sample QC Type (SACode): CS
			Cooler ID:

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1402203-01 **Client Sample Name:** Sullins, GW-INF, 1/30/2014 11:35:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	98	ug/L	1.0	0.17	EPA-8260B	ND	A01	1
Ethylbenzene	45	ug/L	0.50	0.098	EPA-8260B	ND		2
Methyl t-butyl ether	2.4	ug/L	0.50	0.11	EPA-8260B	ND		2
Toluene	30	ug/L	0.50	0.093	EPA-8260B	ND		2
Total Xylenes	170	ug/L	1.0	0.36	EPA-8260B	ND		2
p- & m-Xylenes	130	ug/L	0.50	0.28	EPA-8260B	ND		2
o-Xylene	40	ug/L	0.50	0.082	EPA-8260B	ND		2
Total Purgeable Petroleum Hydrocarbons	2500	ug/L	50	7.2	Luft-GC/MS	ND		2
1,2-Dichloroethane-d4 (Surrogate)	114	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	87.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.1	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	93.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	110	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	01/31/14	02/03/14 10:17	EAR	MS-V10	2	BXA1411
2	EPA-8260B	01/31/14	01/31/14 19:15	EAR	MS-V10	1	BXA1411

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1402203-02 | **Client Sample Name:** Sullins, SVE-INF Lower, 1/30/2014 12:00:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**19000**	**ug/m3**	**1000**	**110**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	2500	1000	EPA-TO-15	ND	A01	1
Ethylbenzene	**2000**	**ug/m3**	**2500**	**120**	**EPA-TO-15**	ND	**J,A01**	1
Toluene	**42000**	**ug/m3**	**1000**	**100**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**3700**	**ug/m3**	**5000**	**400**	**EPA-TO-15**	ND	**J,A01**	1
Total Petroleum Hydrocarbons	**180000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	89.8	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	01/31/14	01/31/14 19:06	MJB	MS-A1	500	BXA1923

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1402203-03 | **Client Sample Name:** Sullins, SVE-INF Upper, 1/30/2014 12:25:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**1500**	**ug/m3**	**200**	**22**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	500	200	EPA-TO-15	ND	A01	1
Ethylbenzene	**190**	**ug/m3**	**500**	**23**	**EPA-TO-15**	ND	**J,A01**	1
Toluene	**2600**	**ug/m3**	**200**	**20**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**320**	**ug/m3**	**1000**	**80**	**EPA-TO-15**	ND	**J,A01**	1
Total Petroleum Hydrocarbons	**31000**	**ug/m3**	**20000**	**3900**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	97.6	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	02/03/14	02/03/14 15:05	MJB	MS-A1	100	BXB0039

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXA1411						
Benzene	BXA1411-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXA1411-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXA1411-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXA1411-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXA1411-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXA1411-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXA1411-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXA1411-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXA1411-BLK1**	**108**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXA1411-BLK1**	**98.0**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXA1411-BLK1**	**96.1**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXA1411										
Benzene	BXA1411-BS1	LCS	23.980	25.000	ug/L	95.9		70 - 130		
Toluene	BXA1411-BS1	LCS	27.020	25.000	ug/L	108		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXA1411-BS1	LCS	10.410	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	BXA1411-BS1	LCS	9.9200	10.000	ug/L	99.2		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXA1411-BS1	LCS	10.050	10.000	ug/L	100		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXA1411	Used client sample: N										
Benzene	MS	1400811-50	ND	22.570	25.000	ug/L		90.3		70 - 130	
	MSD	1400811-50	ND	24.190	25.000	ug/L	6.9	96.8	20	70 - 130	
Toluene	MS	1400811-50	ND	23.800	25.000	ug/L		95.2		70 - 130	
	MSD	1400811-50	ND	26.720	25.000	ug/L	11.6	107	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1400811-50	ND	10.930	10.000	ug/L		109		75 - 125	
	MSD	1400811-50	ND	10.570	10.000	ug/L	3.3	106		75 - 125	
Toluene-d8 (Surrogate)	MS	1400811-50	ND	9.9800	10.000	ug/L		99.8		80 - 120	
	MSD	1400811-50	ND	10.310	10.000	ug/L	3.3	103		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1400811-50	ND	9.5600	10.000	ug/L		95.6		80 - 120	
	MSD	1400811-50	ND	10.220	10.000	ug/L	6.7	102		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sutlins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXA1923						
Benzene	BXA1923-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXA1923-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXA1923-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXA1923-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXA1923-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXA1923-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXA1923-BLK1**	**85.7**	%	**70 - 130 (LCL - UCL)**		
QC Batch ID: BXB0039						
Benzene	BXB0039-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXB0039-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXB0039-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXB0039-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXB0039-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXB0039-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXB0039-BLK1**	**94800**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/07/2014 15:27
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXA1923										
Benzene	BXA1923-BS1	LCS	13.795	15.974	ug/m3	86.4		70 - 130		
	BXA1923-BSD1	LCSD	14.166	15.974	ug/m3	88.7	2.7	70 - 130	30	
1,1-Difluoroethane	BXA1923-BS1	LCS	ND		ug/m3			70 - 130		
	BXA1923-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXA1923-BS1	LCS	25.844	21.711	ug/m3	119		70 - 130		
	BXA1923-BSD1	LCSD	27.164	21.711	ug/m3	125	5.0	70 - 130	30	
Toluene	BXA1923-BS1	LCS	17.821	18.842	ug/m3	94.6		70 - 130		
	BXA1923-BSD1	LCSD	18.480	18.842	ug/m3	98.1	3.6	70 - 130	30	
Total Xylenes	BXA1923-BS1	LCS	51.020	65.132	ug/m3	78.3		70 - 130		
	BXA1923-BSD1	LCSD	54.177	65.132	ug/m3	83.2	6.0	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BXA1923-BS1	LCS	54.260	71.574	ug/m3	75.8		70 - 130		
	BXA1923-BSD1	LCSD	61.024	71.574	ug/m3	85.3	11.7	70 - 130		
QC Batch ID: BXB0039										
Benzene	BXB0039-BS1	LCS	15.316	15.974	ug/m3	95.9		70 - 130		
	BXB0039-BSD1	LCSD	15.150	15.974	ug/m3	94.8	1.1	70 - 130	30	
1,1-Difluoroethane	BXB0039-BS1	LCS	ND		ug/m3			70 - 130		
	BXB0039-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXB0039-BS1	LCS	24.112	21.711	ug/m3	111		70 - 130		
	BXB0039-BSD1	LCSD	24.746	21.711	ug/m3	114	2.6	70 - 130	30	
Toluene	BXB0039-BS1	LCS	19.245	18.842	ug/m3	102		70 - 130		
	BXB0039-BSD1	LCSD	19.366	18.842	ug/m3	103	0.6	70 - 130	30	
Total Xylenes	BXB0039-BS1	LCS	47.012	65.132	ug/m3	72.2		70 - 130		
	BXB0039-BSD1	LCSD	48.141	65.132	ug/m3	73.9	2.4	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	**BXB0039-BS1**	LCS	**57.152**	**0.071574**	**ug/m3**	**79900**		**70 - 130**		
	BXB0039-BSD1	LCSD	**58.283**	**0.071574**	**ug/m3**	**81400**	**2.0**	**70 - 130**		

Ground Zero Analysis, Inc.	**Reported:** 02/07/2014 15:27
1172 Kansas Avenue	Project: Sullins
Modesto, CA 95354	Project Number: 1262.2
	Project Manager: Project Manager

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 02/25/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1403358
Invoice ID:	B166985

Enclosed are the results of analyses for samples received by the laboratory on 2/12/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.

Ground Zero Analysis, Inc. (GZA)
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gti@gtienv.com

Chain of Custody

#14-03358

Billing To: Ground Zero Analysis, Inc.

Project #:	Project Name:
1262.2	SULLINS

Site Address: 187 NORTH L STREET, LIVERMORE, CA

Global ID No.: T0600100116	EDF Report: ☐ Yes ☒ No
Client: GZA / Geological Technics	Rpt Attn: GZA / GT
Client Address: 1172 Kansas Avenue	Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351	Client Email: gti@gtienv.com
Client Phone: (209) 522-4119	Client Fax: (209) 522-4227

Sampling Info: Sampled By (initials): AD, GZA / GT

	Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested: TPH-G, BTEX (TO-15)	Analysis Requested: TPH-G, BTEX, MTBE (8260)
-1	2-11-14	1205		SVE-INF UPPER	1	G	-	X	
-2	↓	1400		SVE-INF LOWER	1	G	-	X	
-3	↓	1405		GW-INF	4	W	HCL		X

CHK BY: KLQ

DISTRIBUTION: [illegible] ☐ SUB-OUT ☐

Laboratory: BC LABS

Purchase Order #: 1262-703276

Turnaround Time: (S = Standard) 1 day 2 day 3 day 5 day

Email Lab Report (.pdf): ☐ Yes ☐ No

Email EDF Lab Report (.zip): ☐ Yes ☐ No

Mail Lab Report: ☐ Yes ☐ No

Special Instructions / Remarks

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by: [signature]	ANDREW DORN	GZA	2-12-14	1115
Received / Relinquished by: [signature]	Ross Dickey	BC LAB	2-12-14	1115
Received / Relinquished by: [signature]	Ross Dickey	BC LAB	2-12-14	1900

Please return cooler / ice chest to GZA / Geological Technics

REC [illegible] 2-12-14 19:00 REL [illegible] 2-12-14 2015 Rec: [illegible] 2-12-14 2215

Rev. 2/2013

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1403358 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 14-03358

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify) Bag	YES ☐ NO ☐

Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Container ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐ SAS 2/12

COC Received ☒ YES ☐ NO

Emissivity: 0 Container: Tedlar Thermometer ID: 0 Temperature: (A) Room °C / (C) Temp °C

Date/Time 2/12/14 2215

Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
~~PT FE UNPRESERVED~~ Tedlar [x68]	A	A								
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: NO sample description, date or time for -2 Tedlar.

Sample Numbering Completed By: SAS Date/Time: 2/12/14 2235

Chain of Custody and Cooler Receipt Form for 1403358 Page 3 of 3

BC LABORATORIES INC. **COOLER RECEIPT FORM** Rev. No. 15 07/01/13 Page 2 Of 2

Submission #: 14-03365

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: P-PE Thermometer ID: 207

Temperature: (A) 1.3 °C / (C) 1.3 °C

Date/Time 2/12/14 2215

Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	A (4)	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR						/				
RADIOLOGICAL						/				
BACTERIOLOGICAL						/				
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: SAS Date/Time: 2/12/14 2245

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1403358-01	**COC Number:**	---	**Receive Date:**	02/12/2014 22:15
	Project Number:	Sullins	**Sampling Date:**	02/11/2014 12:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF Upper	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Vapor or Air
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): SVE-INF Upper			
	Matrix: GS			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1403358-02	**COC Number:**	---	**Receive Date:**	02/12/2014 22:15
	Project Number:	Sullins	**Sampling Date:**	02/11/2014 14:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF Lower	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Vapor or Air
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): SVE-INF Lower			
	Matrix: GS			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1403358-03	**COC Number:**	---	**Receive Date:**	02/12/2014 22:15
	Project Number:	Sullins	**Sampling Date:**	02/11/2014 14:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): GW-INF			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1403358-01 | **Client Sample Name:** Sullins, SVE-INF Upper, 2/11/2014 12:05:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**720**	**ug/m3**	**20**	**2.2**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	50	20	EPA-TO-15	ND	A01	1
Ethylbenzene	**93**	**ug/m3**	**50**	**2.3**	**EPA-TO-15**	ND	**A01**	1
Toluene	**790**	**ug/m3**	**20**	**2.0**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**520**	**ug/m3**	**100**	**8.0**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**250000**	**ug/m3**	**20000**	**3900**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	113	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	90.9	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	02/13/14	02/14/14 10:08	MJB	MS-A1	10	BXB0873
2	EPA-TO-15	02/13/14	02/14/14 11:15	MJB	MS-A1	100	BXB0873

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1403358-02 | **Client Sample Name:** Sullins, SVE-INF Lower, 2/11/2014 2:00:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/m3	1000	110	EPA-TO-15	ND	A01	1
1,1-Difluoroethane	ND	ug/m3	2500	1000	EPA-TO-15	ND	A01	1
Ethylbenzene	**440**	**ug/m3**	**2500**	**120**	**EPA-TO-15**	ND	**J,A01**	1
Toluene	**3200**	**ug/m3**	**1000**	**100**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**1500**	**ug/m3**	**5000**	**400**	**EPA-TO-15**	ND	**J,A01**	1
Total Petroleum Hydrocarbons	**200000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	124	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	02/13/14	02/13/14 19:21	MJB	MS-A1	500	BXB0873

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1403358-03 | **Client Sample Name:** Sullins, GW-INF, 2/11/2014 2:05:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**100**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**20**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
Toluene	**35**	**ug/L**	**12**	**2.3**	**EPA-8260B**	ND	**A01**	1
Total Xylenes	**150**	**ug/L**	**25**	**9.0**	**EPA-8260B**	ND	**A01**	1
p- & m-Xylenes	**110**	**ug/L**	**12**	**7.0**	**EPA-8260B**	ND	**A01**	1
o-Xylene	**44**	**ug/L**	**12**	**2.0**	**EPA-8260B**	ND	**A01**	1
Total Purgeable Petroleum Hydrocarbons	**1700**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.6	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	02/21/14	02/22/14 16:49	JMS	MS-V10	25	BXB1552

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXB1552						
Benzene	BXB1552-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXB1552-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXB1552-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXB1552-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXB1552-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXB1552-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXB1552-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXB1552-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXB1552-BLK1**	**100**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXB1552-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXB1552-BLK1**	**95.3**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXB1552										
Benzene	BXB1552-BS1	LCS	30.380	25.000	ug/L	122		70 - 130		
Toluene	BXB1552-BS1	LCS	31.520	25.000	ug/L	126		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXB1552-BS1	LCS	9.9400	10.000	ug/L	99.4		75 - 125		
Toluene-d8 (Surrogate)	BXB1552-BS1	LCS	10.250	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXB1552-BS1	LCS	9.8800	10.000	ug/L	98.8		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXB1552	Used client sample: N										
Benzene	MS	1400811-85	ND	26.810	25.000	ug/L		107		70 - 130	
	MSD	1400811-85	ND	30.330	25.000	ug/L	12.3	121	20	70 - 130	
Toluene	MS	1400811-85	ND	28.910	25.000	ug/L		116		70 - 130	
	MSD	1400811-85	ND	32.110	25.000	ug/L	10.5	128	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1400811-85	ND	10.670	10.000	ug/L		107		75 - 125	
	MSD	1400811-85	ND	10.220	10.000	ug/L	4.3	102		75 - 125	
Toluene-d8 (Surrogate)	MS	1400811-85	ND	10.370	10.000	ug/L		104		80 - 120	
	MSD	1400811-85	ND	10.310	10.000	ug/L	0.6	103		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1400811-85	ND	9.8900	10.000	ug/L		98.9		80 - 120	
	MSD	1400811-85	ND	9.6100	10.000	ug/L	2.9	96.1		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXB0873						
Benzene	BXB0873-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXB0873-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXB0873-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXB0873-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXB0873-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXB0873-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXB0873-BLK1**	**99200**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXB0873										
Benzene	BXB0873-BS1	LCS	14.565	15.974	ug/m3	91.2		70 - 130		
	BXB0873-BSD1	LCSD	14.667	15.974	ug/m3	91.8	0.7	70 - 130	30	
1,1-Difluoroethane	BXB0873-BS1	LCS	ND		ug/m3			70 - 130		
	BXB0873-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXB0873-BS1	LCS	23.630	21.711	ug/m3	109		70 - 130		
	BXB0873-BSD1	LCSD	22.961	21.711	ug/m3	106	2.9	70 - 130	30	
Toluene	BXB0873-BS1	LCS	22.939	18.842	ug/m3	122		70 - 130		
	BXB0873-BSD1	LCSD	23.150	18.842	ug/m3	123	0.9	70 - 130	30	
Total Xylenes	BXB0873-BS1	LCS	47.394	65.132	ug/m3	72.8		70 - 130		
	BXB0873-BSD1	LCSD	49.648	65.132	ug/m3	76.2	4.6	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	**BXB0873-BS1**	LCS	**61.489**	**0.071574**	**ug/m3**	**85900**		**70 - 130**		
	BXB0873-BSD1	LCSD	**62.326**	**0.071574**	**ug/m3**	**87100**	**1.4**	**70 - 130**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 02/25/2014 13:00
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 03/03/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1404179
Invoice ID:	B167305

Enclosed are the results of analyses for samples received by the laboratory on 2/25/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Table of Contents

GROUND ZERO ANALYSIS, INC.

Ground Zero Analysis, Inc. (GZA)
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gti@gtienv.com

Page 1 of 1

Chain of Custody

14-04179

Billing To: Ground Zero Analysis, Inc.

Project #:	Project Name:
12622	Sullins

Site Address: 187 North L Street Livermore, CA

Global ID No.: T0600100116 EDF Report: ☐ Yes ☒ No

Client: GZA / Geological Technics Rpt Attn: GZA / GT

Client Address: 1172 Kansas Avenue Type of Event: GWM (Sys Monitoring) Drilling Other

City, State, Zip: Modesto, CA 95351 Client Email: gti@gtienv.com

Client Phone: (209) 522-4119 Client Fax: (209) 522-4227

Sampling Info: Sampled By (initials): AD, GZA / GT

Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested: TPH-G, BTEX, MTBE (8260)
2/25/14	1305		GW-INF	4	W	HCL	X

Laboratory: BC Labs

Purchase Order # 1262-703276

Turnaround Time: (S = Standard) 1 day 2 day 3 day 5 day

Email Lab Report (.pdf): ☒ Yes ☐ No

Email EDF Lab Report (.zip): ☐ Yes ☐ No

Mail Lab Report: ☐ Yes ☐ No

Special Instructions / Remarks

CHK BY: LAS

DISTRIBUTION: JDH

SUB-OUT ☐

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DOAN	GZA	2-25-14	1518
Received / Relinquished by:	Ross Dickey	BCLAB	2.25.14	1510
Received / Relinquished by:	Ross Dickey	BC LAB	2.25.14	1815

Please return cooler / ice chest to GZA / Geological Technics

REC- ☒ 2-25-14 1815 REL- ☒ 2-25-14 1815 2-25-14 1815

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 1404179 Page 2 of 2

BC LABORATORIES INC. **COOLER RECEIPT FORM** Rev. No. 15 07/01/13 Page 1 Of 1

Submission #: 14-04179

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

☑ COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: Ptpe Thermometer ID: 207 Date/Time 2-25-14 2155

Temperature: (A) 2.4 °C / (C) 2.4 °C Analyst Init KD

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A (4)	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: Date/Time: 2.25.14 2330

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/03/2014 11:15
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1404179-01	**COC Number:**	---	**Receive Date:**	02/25/2014 21:55
	Project Number:	Sullins	**Sampling Date:**	02/25/2014 13:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): GW-INF	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/03/2014 11:15
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1404179-01 | **Client Sample Name:** Sullins, GW-INF, 2/25/2014 1:05:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	150	ug/L	5.0	0.83	EPA-8260B	ND	A01	1
Ethylbenzene	27	ug/L	0.50	0.098	EPA-8260B	ND		2
Methyl t-butyl ether	4.2	ug/L	0.50	0.11	EPA-8260B	ND		2
Toluene	45	ug/L	0.50	0.093	EPA-8260B	ND		2
Total Xylenes	180	ug/L	1.0	0.36	EPA-8260B	ND		2
p- & m-Xylenes	120	ug/L	0.50	0.28	EPA-8260B	ND		2
o-Xylene	56	ug/L	0.50	0.082	EPA-8260B	ND		2
Total Purgeable Petroleum Hydrocarbons	1700	ug/L	50	7.2	Luft-GC/MS	ND		2
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	95.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	99.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	02/26/14	02/28/14 11:47	JMS	MS-V10	10	BXB1901
2	EPA-8260B	02/26/14	02/27/14 08:41	JMS	MS-V10	1	BXB1901

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/03/2014 11:15
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXB1901						
Benzene	BXB1901-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXB1901-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXB1901-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXB1901-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXB1901-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXB1901-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXB1901-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXB1901-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXB1901-BLK1**	**102**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXB1901-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXB1901-BLK1**	**97.8**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/03/2014 11:15
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXB1901										
Benzene	BXB1901-BS1	LCS	27.390	25.000	ug/L	110		70 - 130		
Toluene	BXB1901-BS1	LCS	27.670	25.000	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXB1901-BS1	LCS	10.330	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	BXB1901-BS1	LCS	10.160	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXB1901-BS1	LCS	9.8400	10.000	ug/L	98.4		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/03/2014 11:15
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXB1901	Used client sample: N										
Benzene	MS	1404009-27	ND	23.030	25.000	ug/L		92.1		70 - 130	
	MSD	1404009-27	ND	26.320	25.000	ug/L	13.3	105	20	70 - 130	
Toluene	MS	1404009-27	ND	22.500	25.000	ug/L		90.0		70 - 130	
	MSD	1404009-27	ND	25.400	25.000	ug/L	12.1	102	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1404009-27	ND	10.130	10.000	ug/L		101		75 - 125	
	MSD	1404009-27	ND	10.130	10.000	ug/L	0	101		75 - 125	
Toluene-d8 (Surrogate)	MS	1404009-27	ND	9.8500	10.000	ug/L		98.5		80 - 120	
	MSD	1404009-27	ND	9.9500	10.000	ug/L	1.0	99.5		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1404009-27	ND	9.9400	10.000	ug/L		99.4		80 - 120	
	MSD	1404009-27	ND	9.7400	10.000	ug/L	2.0	97.4		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/03/2014 11:15
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 03/26/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	5262
BCL Project:	Sullins
BCL Work Order:	1406216
Invoice ID:	B169400

Enclosed are the results of analyses for samples received by the laboratory on 3/19/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

Ground Zero Analysis, Inc. (GZA)
Geological Technics
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gti@gtienv.com

14-06216

Page 1 of 1

Chain of Custody

Billing To: Ground Zero Analysis, Inc.

Laboratory: BC Labs

Purchase Order #: 1262-703276

Turnaround Time: (S) = Standard 1 day 2 day 3 day 5 day

Email Lab Report (.pdf): ☒ Yes ☐ No
Email EDF Lab Report (.zip): ☐ Yes ☒ No
Mail Lab Report: ☐ Yes ☒ No

Project #: 5262
Project Name: Sullins
Site Address: 187 North "L" Street Livermore, CA
Global ID No.:
EDF Report: ☐ Yes ☒ No
Client: GZA / Geological Technics
Rpt Attn: GZA (GT)
Client Address: 1172 Kansas Avenue
Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351
Client Email: gti@gtienv.com
Client Phone: (209) 522-4119
Client Fax: (209) 522-4227
Sampling Info: Sampled By (initials): [illegible], GZA / GT

	Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	TPH-G & BTEX (8260)	TPH-G & BTEX (TO-15)	Special Instructions / Remarks
-1	3/18/14	1314		GW-INF	4	3	HCL	X		
-2	3/18/14	1337		SVE-INF LOWER	1	G	None		X	

CHK BY / DISTRIBUTION / SUB-OUT ☐

	Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	[signature]	Mark Pierson	GZA	3-19-14	1155
Received / Relinquished by:	Gary Bogan	GARY BOGAN	BC LAB	3-19-14	1155
Received / (Relinquished by):	Gary Bogan	GARY BOGAN	BC LAB	3-19-14	1830

Please return cooler / ice chest to GZA / Geological Technics REC. [illegible] 3-19-14 18:30 REC. [illegible] 3-19-14 2205 [signature] 3-19-14 2205

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 1406216 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 14-06216

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: PE Thermometer ID: 207 Date/Time 3.19.14 1205

Temperature: (A) 1.1 °C / (C) 1.1 °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE									1	
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK									1	
40ml VOA VIAL	A (4)	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: _____

Chain of Custody and Cooler Receipt Form for 1406216 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page [illegible] of [illegible]

Submission #: 14-06216

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery	Ice Chest ☐ None ☐ Box ☒	YES ☐ NO ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____	Other ☐ (Specify) Bag	

Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received		
☒ YES ☐ NO	Emissivity: 0 Container: Tedlar Thermometer ID: 0	Date/Time 3.19.14 2205
	Temperature: (A) Room °C / (C) Temp °C	Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
T GENERAL MINERAL/ GENERAL										
~~T PE UNPRESERVED~~ Tedlar [x68]	A	A								
	3.19									
T INORGANIC CHEMICAL METALS										
T INORGANIC CHEMICAL METALS										
T CYANIDE										
T NITROGEN FORMS										
T TOTAL SULFIDE										
Y2. NITRATE / NITRITE										
T TOTAL ORGANIC CARBON										
T TOX										
T CHEMICAL OXYGEN DEMAND										
A PHENOLICS										
ml VOA VIAL TRAVEL BLANK										
ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
T EPA 413.1, 413.2, 418.1										
T ODOR										
ADIOLOGICAL										
ACTERIOLOGICAL										
ml VOA VIAL- 504										
T EPA 508/608/8080										
T EPA 515.1/8150										
T EPA 525										
T EPA 525 TRAVEL BLANK										
0ml EPA 547										
0ml EPA 531.1										
T EPA 548										
T EPA 549										
T EPA 632										
T EPA 8015M										
T AMBER										
OZ. JAR										
OZ. JAR										
IL SLEEVE										
B VIAL										
ASTIC BAG										
RROUS IRON										
CORE										
ART KIT										
mma Canister										

nments:_____

nple Numbering Completed By: SAS Date/Time: 3.19.14 2215

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1406216-01	**COC Number:**	---	**Receive Date:**	03/19/2014 22:05
	Project Number:	Sullins	**Sampling Date:**	03/18/2014 13:14
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): GW-INF	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1406216-02	**COC Number:**	---	**Receive Date:**	03/19/2014 22:05
	Project Number:	Sullins	**Sampling Date:**	03/18/2014 13:37
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF Lower	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Vapor or Air
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): SVE-INF Lower	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1406216-01 | **Client Sample Name:** Sullins, GW-INF, 3/18/2014 1:14:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	61	ug/L	1.0	0.17	EPA-8260B	ND	A01	1
Ethylbenzene	18	ug/L	1.0	0.20	EPA-8260B	ND	A01	1
Toluene	14	ug/L	1.0	0.19	EPA-8260B	ND	A01	1
Total Xylenes	80	ug/L	2.0	0.72	EPA-8260B	ND	A01	1
p- & m-Xylenes	58	ug/L	1.0	0.56	EPA-8260B	ND	A01	1
o-Xylene	22	ug/L	1.0	0.16	EPA-8260B	ND	A01	1
Total Purgeable Petroleum Hydrocarbons	2600	ug/L	100	14	Luft-GC/MS	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	107	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	97.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	108	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	03/20/14	03/21/14 08:23	JMS	MS-V10	2	BXC1648

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1406216-02 | **Client Sample Name:** Sullins, SVE-INF Lower, 3/18/2014 1:37:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/m3	20	2.2	EPA-TO-15	ND	A01	1
1,1-Difluoroethane	ND	ug/m3	50	20	EPA-TO-15	ND	A01	1
Ethylbenzene	**11**	**ug/m3**	**50**	**2.3**	**EPA-TO-15**	ND	**J,A01**	1
Toluene	**10**	**ug/m3**	**20**	**2.0**	**EPA-TO-15**	ND	**J,A01**	1
Total Xylenes	**41**	**ug/m3**	**100**	**8.0**	**EPA-TO-15**	ND	**J,A01**	1
Total Petroleum Hydrocarbons	**890**	**ug/m3**	**2000**	**390**	**EPA-TO-15**	ND	**J,A01**	1
4-Bromofluorobenzene (Surrogate)	105	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	03/20/14	03/20/14 23:36	MJB	MS-A1	10	BXC1642

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXC1648						
Benzene	BXC1648-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXC1648-BLK1	ND	ug/L	0.50	0.098	
Toluene	BXC1648-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXC1648-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXC1648-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXC1648-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXC1648-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXC1648-BLK1**	**108**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXC1648-BLK1**	**98.1**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXC1648-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXC1648										
Benzene	BXC1648-BS1	LCS	24.100	25.000	ug/L	96.4		70 - 130		
Toluene	BXC1648-BS1	LCS	22.230	25.000	ug/L	88.9		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXC1648-BS1	LCS	9.8600	10.000	ug/L	98.6		75 - 125		
Toluene-d8 (Surrogate)	BXC1648-BS1	LCS	9.8800	10.000	ug/L	98.8		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXC1648-BS1	LCS	10.100	10.000	ug/L	101		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXC1648	Used client sample: N										
Benzene	MS	1404104-66	ND	24.270	25.000	ug/L		97.1		70 - 130	
	MSD	1404104-66	ND	23.760	25.000	ug/L	2.1	95.0	20	70 - 130	
Toluene	MS	1404104-66	ND	22.130	25.000	ug/L		88.5		70 - 130	
	MSD	1404104-66	ND	21.400	25.000	ug/L	3.4	85.6	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1404104-66	ND	10.200	10.000	ug/L		102		75 - 125	
	MSD	1404104-66	ND	10.470	10.000	ug/L	2.6	105		75 - 125	
Toluene-d8 (Surrogate)	MS	1404104-66	ND	9.8500	10.000	ug/L		98.5		80 - 120	
	MSD	1404104-66	ND	9.8300	10.000	ug/L	0.2	98.3		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1404104-66	ND	10.340	10.000	ug/L		103		80 - 120	
	MSD	1404104-66	ND	10.410	10.000	ug/L	0.7	104		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXC1642						
Benzene	BXC1642-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXC1642-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXC1642-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXC1642-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXC1642-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXC1642-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXC1642-BLK1**	**112**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXC1642										
Benzene	BXC1642-BS1	LCS	18.498	15.974	ug/m3	116		70 - 130		
	BXC1642-BSD1	LCSD	18.740	15.974	ug/m3	117	1.3	70 - 130	30	
1,1-Difluoroethane	BXC1642-BS1	LCS	ND		ug/m3			70 - 130		
	BXC1642-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	**BXC1642-BS1**	LCS	**37.976**	**21.711**	**ug/m3**	**175**		**70 - 130**		
	BXC1642-BSD1	LCSD	**37.099**	**21.711**	**ug/m3**	**171**	**2.3**	**70 - 130**	**30**	
Toluene	BXC1642-BS1	LCS	21.510	18.842	ug/m3	114		70 - 130		
	BXC1642-BSD1	LCSD	21.555	18.842	ug/m3	114	0.2	70 - 130	30	
Total Xylenes	**BXC1642-BS1**	LCS	**108.72**	**65.132**	**ug/m3**	**167**		**70 - 130**		
	BXC1642-BSD1	LCSD	**105.36**	**65.132**	**ug/m3**	**162**	**3.1**	**70 - 130**	**30**	
4-Bromofluorobenzene (Surrogate)	BXC1642-BS1	LCS	78.123	71.574	ug/m3	109		70 - 130		
	BXC1642-BSD1	LCSD	72.655	71.574	ug/m3	102	7.3	70 - 130		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 03/26/2014 11:23
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 04/11/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	5262
BCL Project:	Sullins
BCL Work Order:	1407073
Invoice ID:	B170788

Enclosed are the results of analyses for samples received by the laboratory on 4/1/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

#14-07073

Billing To: Ground Zero Analysis, Inc.

Project #: 5262	Project Name: Sellins
Site Address: 187 North "L" ST Livermore, CA	
Global ID No.:	EDF Report: ☐ Yes ☒ No
Client: Ground Zero Analysis, Inc.	Rpt Attn: Ground Zero Analysis, Inc.
Client Address: 1172 Kansas Avenue	Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351	Client Email: gza@groundzeroanalysis.com
Client Phone: (209) 522-4119	Client Fax: (209) 522-4227
Sampling Info:	Sampled By (initials): MP, GZA

	Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested: BTEX & TPH-G (TO-15)	Analysis Requested: BTEX & TPH-G (8260)
-1	4/1/14	1050		SVE-INF LOWER	1	G	HA	X	
-2	4/1/14	1115		GW-INF	6	W	HCL		X

CHK BY: M
DISTRIBUTION: ACE JMR SUB-OUT

Laboratory: BC Labs
Purchase Order #
Turnaround Time: (S) = Standard
1 day 2 day 3 day 5 day
Email Lab Report (.pdf): ☒ Yes ☐ No
Email EDF Lab Report (.zip): ☐ Yes ☒ No
Mail Lab Report: ☐ Yes ☒ No

Special Instructions / Remarks

	Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	Mark Pier	Mark Pierson	GZA	4.1.14	1610
Received / Relinquished by:	Ross Dickey	Ross Dickey	BC LAB	4.1.14	1610
Received / Relinquished by:	Ross Dickey	Ross Dickey	BC LAB	4.1.14	1710

Please return cooler / ice chest to Ground Zero Analysis, Inc.

REL. 04-01-14

REC Mary Bogan 4-1-14 1710
REL Mary Bogan 4-1-14 1900 REC. 2020

REC: SAS 4.1.14 2220

Rev. 3/2014

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1407073 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM

Submission #: 14-07073

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery	Ice Chest ☐ None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify) Bag	

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0 Container: Tedlar Thermometer ID: 0 Date/Time 4.1.14 2220

Temperature: (A) Room °C / (C) Temp °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
~~PT PE UNPRESERVED~~ Tedlar [x68]	A									
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: SAS Date/Time: 4.1.14 2300

Chain of Custody and Cooler Receipt Form for 1407073 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 Of 2

Submission #: 14-07073

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: PE Thermometer ID: 207 Date/Time 4.1.14 2220

Temperature: (A) 2.0 °C / (C) 2.0 °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	A (6)	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: SAS Date/Time: 4.1.14 2310

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1407073-01	**COC Number:**	---	**Receive Date:**	04/01/2014 22:20
	Project Number:	Sullins	**Sampling Date:**	04/01/2014 10:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF Lower	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Vapor Blank
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): SVE-INF Lower	
			Matrix: GS	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1407073-02	**COC Number:**	---	**Receive Date:**	04/01/2014 22:20
	Project Number:	Sullins	**Sampling Date:**	04/01/2014 11:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): GW-INF	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1407073-01 **Client Sample Name:** Sullins, SVE-INF Lower, 4/1/2014 10:50:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**16000**	**ug/m3**	**1000**	**110**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	500	200	EPA-TO-15	ND	A01	2
Ethylbenzene	**4600**	**ug/m3**	**500**	**23**	**EPA-TO-15**	ND	**A01**	2
Toluene	**1800**	**ug/m3**	**200**	**20**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**10000**	**ug/m3**	**1000**	**80**	**EPA-TO-15**	ND	**A01**	2
Total Petroleum Hydrocarbons	**85000**	**ug/m3**	**20000**	**3900**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	109	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	115	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	04/04/14	04/04/14 21:15	MJB	MS-A1	500	BXD0307
2	EPA-TO-15	04/04/14	04/04/14 13:28	MJB	MS-A1	100	BXD0307

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1407073-02 | **Client Sample Name:** Sullins, GW-INF, 4/1/2014 11:15:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**19**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**4.9**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Toluene	**2.6**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**19**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**15**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**4.4**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**340**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	97.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/07/14	04/08/14 09:30	JMS	MS-V10	1	BXD0723

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXD0723						
Benzene	BXD0723-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXD0723-BLK1	ND	ug/L	0.50	0.098	
Toluene	BXD0723-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXD0723-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXD0723-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXD0723-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXD0723-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXD0723-BLK1**	**103**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXD0723-BLK1**	**99.7**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXD0723-BLK1**	**98.9**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXD0723										
Benzene	BXD0723-BS1	LCS	31.110	25.000	ug/L	124		70 - 130		
Toluene	BXD0723-BS1	LCS	31.540	25.000	ug/L	126		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXD0723-BS1	LCS	10.030	10.000	ug/L	100		75 - 125		
Toluene-d8 (Surrogate)	BXD0723-BS1	LCS	9.8400	10.000	ug/L	98.4		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXD0723-BS1	LCS	10.180	10.000	ug/L	102		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXD0723	Used client sample: N										
Benzene	MS	1407468-11	ND	31.890	25.000	ug/L		128		70 - 130	
	MSD	1407468-11	ND	30.810	25.000	ug/L	3.4	123	20	70 - 130	
Toluene	MS	1407468-11	ND	31.850	25.000	ug/L		127		70 - 130	
	MSD	1407468-11	ND	30.190	25.000	ug/L	5.4	121	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1407468-11	ND	10.430	10.000	ug/L		104		75 - 125	
	MSD	1407468-11	ND	10.390	10.000	ug/L	0.4	104		75 - 125	
Toluene-d8 (Surrogate)	MS	1407468-11	ND	10.080	10.000	ug/L		101		80 - 120	
	MSD	1407468-11	ND	10.010	10.000	ug/L	0.7	100		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1407468-11	ND	9.6800	10.000	ug/L		96.8		80 - 120	
	MSD	1407468-11	ND	9.6200	10.000	ug/L	0.6	96.2		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXD0307						
Benzene	BXD0307-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXD0307-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXD0307-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXD0307-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXD0307-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXD0307-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXD0307-BLK1**	**118**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXD0307										
Benzene	BXD0307-BS1	LCS	17.242	15.974	ug/m3	108		70 - 130		
	BXD0307-BSD1	LCSD	17.600	15.974	ug/m3	110	2.1	70 - 130	30	
1,1-Difluoroethane	BXD0307-BS1	LCS	ND		ug/m3			70 - 130		
	BXD0307-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXD0307-BS1	LCS	28.107	21.711	ug/m3	129		70 - 130		
	BXD0307-BSD1	LCSD	28.159	21.711	ug/m3	130	0.2	70 - 130	30	
Toluene	BXD0307-BS1	LCS	20.595	18.842	ug/m3	109		70 - 130		
	BXD0307-BSD1	LCSD	21.013	18.842	ug/m3	112	2.0	70 - 130	30	
Total Xylenes	BXD0307-BS1	LCS	84.459	65.132	ug/m3	130		70 - 130		
	BXD0307-BSD1	LCSD	83.998	65.132	ug/m3	129	0.5	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BXD0307-BS1	LCS	83.154	71.574	ug/m3	116		70 - 130		
	BXD0307-BSD1	LCSD	80.592	71.574	ug/m3	113	3.1	70 - 130		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/11/2014 17:33
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 04/21/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	5262
BCL Project:	Sullins
BCL Work Order:	1408584
Invoice ID:	B171371

Enclosed are the results of analyses for samples received by the laboratory on 4/16/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

Billing To: Ground Zero Analysis, Inc.

Project #: 5262
Project Name: Sullivs
Site Address: 187 North L St. Livermore, CA
Global ID No.:
EDF Report: ☐ Yes ☒ No
Client: Ground Zero Analysis, Inc.
Rpt Attn: Ground Zero Analysis, Inc.
Client Address: 1172 Kansas Avenue
Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351
Client Email: gza@groundzeroanalysis.com
Client Phone: (209) 522-4119
Client Fax: (209) 522-4227
Sampling Info: Sampled By (initials): MP, GZA

Laboratory: BC Labs
Purchase Order #: 14-08584
Turnaround Time: (S) = Standard 1 day 2 day 3 day 5 day
Email Lab Report (.pdf): ☒ Yes ☐ No
Email EDF Lab Report (.zip): ☐ Yes ☒ No
Mail Lab Report: ☐ Yes ☒ No

Analysis Requested

Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	TPH-G+BTEX (TO-15)	TPH-G+BTEX (8260)	Special Instructions / Remarks
4/15/14	1255	-1	SVE-INF	1	G	—	X		
4/15/14	1300	-2	GW-INF	6	W	Hcl		X	

CHK BY | DISTRIBUTION | SUB-OUT ☐

Signature	Print Name	Company	Date:	Time:
(Received / Relinquished by:) [signature]	Mark Pierson	GZA	4-16-14	1035
Received / Relinquished by: [signature]	Ross Dickey	BC LAB	4-16-14	1035
(Received / Relinquished by:) [signature]	Ross Dickey	BC LAB	4-16-14	1845

Please return cooler / ice chest to Ground Zero Analysis, Inc. REC [signature] 4-16-14 18:45 REL [signature] 4-16-14 21:40 [signature] 4-16-14 2140

Rev. 3/2014

Chain of Custody and Cooler Receipt Form for 1408584 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 14-08584

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☐ None ☐ Box ☑ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☐ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

☑ COC Received ☑ YES ☐ NO

Emissivity: ____ Container: Tedlar Thermometer ID: ____ Date/Time: 4/16/14 2140

Temperature: (A) Room °C / (C) Temp °C Analyst Init: RP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG Tedlar	A									
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: TSP Date/Time: 4/16/14 2258

Chain of Custody and Cooler Receipt Form for 1408584 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 Of 2

Submission #: 14-08584

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.95 Container: PE Thermometer ID: 207

Temperature: (A) 2.0 °C / (C) 2.0 °C

Date/Time 4/16/14

Analyst Init BP 2140

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	A (6)	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1408584-01	**COC Number:**	---	**Receive Date:**	04/16/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	04/15/2014 12:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF	**Lab Matrix:**	Air
	Sampled By:	GTIM	**Sample Type:**	Vapor or Air
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): SVE-INF	
			Matrix: GS	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1408584-02	**COC Number:**	---	**Receive Date:**	04/16/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	04/15/2014 13:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): GW-INF	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1408584-01 | **Client Sample Name:** Sullins, SVE-INF, 4/15/2014 12:55:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**46000**	**ug/m3**	**2000**	**220**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	2500	1000	EPA-TO-15	ND	A01	2
Ethylbenzene	**17000**	**ug/m3**	**2500**	**120**	**EPA-TO-15**	ND	**A01**	2
Toluene	**11000**	**ug/m3**	**1000**	**100**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**49000**	**ug/m3**	**5000**	**400**	**EPA-TO-15**	ND	**A01**	2
Total Petroleum Hydrocarbons	**1100000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	156	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	123	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	04/18/14	04/19/14 18:24	MJB	MS-A1	1000	BXD1549
2	EPA-TO-15	04/18/14	04/18/14 15:07	MJB	MS-A1	500	BXD1549

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1408584-02 | **Client Sample Name:** Sullins, GW-INF, 4/15/2014 1:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**52**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**14**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Toluene	**10**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**53**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**38**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**15**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**2000**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/17/14	04/18/14 11:29	JMS	MS-V10	1	BXD1536

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXD1536						
Benzene	BXD1536-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXD1536-BLK1	ND	ug/L	0.50	0.098	
Toluene	BXD1536-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXD1536-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXD1536-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXD1536-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXD1536-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXD1536-BLK1**	**102**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXD1536-BLK1**	**98.6**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXD1536-BLK1**	**98.0**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXD1536										
Benzene	BXD1536-BS1	LCS	30.020	25.000	ug/L	120		70 - 130		
Toluene	BXD1536-BS1	LCS	29.210	25.000	ug/L	117		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXD1536-BS1	LCS	10.700	10.000	ug/L	107		75 - 125		
Toluene-d8 (Surrogate)	BXD1536-BS1	LCS	9.9900	10.000	ug/L	99.9		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXD1536-BS1	LCS	10.460	10.000	ug/L	105		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXD1536	Used client sample: N										
Benzene	MS	1407468-21	ND	30.020	25.000	ug/L		120		70 - 130	
	MSD	1407468-21	ND	27.440	25.000	ug/L	9.0	110	20	70 - 130	
Toluene	MS	1407468-21	ND	30.840	25.000	ug/L		123		70 - 130	
	MSD	1407468-21	ND	28.490	25.000	ug/L	7.9	114	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1407468-21	ND	10.410	10.000	ug/L		104		75 - 125	
	MSD	1407468-21	ND	10.020	10.000	ug/L	3.8	100		75 - 125	
Toluene-d8 (Surrogate)	MS	1407468-21	ND	10.140	10.000	ug/L		101		80 - 120	
	MSD	1407468-21	ND	10.120	10.000	ug/L	0.2	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1407468-21	ND	10.140	10.000	ug/L		101		80 - 120	
	MSD	1407468-21	ND	10.420	10.000	ug/L	2.7	104		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXD1549						
Benzene	BXD1549-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXD1549-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXD1549-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXD1549-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXD1549-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXD1549-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXD1549-BLK1**	**120**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXD1549										
Benzene	BXD1549-BS1	LCS	20.657	15.974	ug/m3	129		70 - 130		
	BXD1549-BSD1	LCSD	20.162	15.974	ug/m3	126	2.4	70 - 130	30	
1,1-Difluoroethane	BXD1549-BS1	LCS	ND		ug/m3			70 - 130		
	BXD1549-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	**BXD1549-BS1**	LCS	**36.769**	**21.711**	**ug/m3**	**169**		**70 - 130**		
	BXD1549-BSD1	LCSD	**35.810**	**21.711**	**ug/m3**	**165**	**2.6**	**70 - 130**	**30**	
Toluene	BXD1549-BS1	LCS	22.422	18.842	ug/m3	119		70 - 130		
	BXD1549-BSD1	LCSD	22.501	18.842	ug/m3	119	0.4	70 - 130	30	
Total Xylenes	**BXD1549-BS1**	LCS	**109.89**	**65.132**	**ug/m3**	**169**		**70 - 130**		
	BXD1549-BSD1	LCSD	**105.96**	**65.132**	**ug/m3**	**163**	**3.6**	**70 - 130**	**30**	
4-Bromofluorobenzene (Surrogate)	BXD1549-BS1	LCS	78.116	71.574	ug/m3	109		70 - 130		
	BXD1549-BSD1	LCSD	73.435	71.574	ug/m3	103	6.2	70 - 130		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 04/21/2014 13:53
Project: Sullins
Project Number: 5262
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 05/01/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1409344
Invoice ID:	B172258

Enclosed are the results of analyses for samples received by the laboratory on 4/28/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

Billing To: Ground Zero Analysis, Inc.

Project #: 1262.2	Project Name: SULLINS 14-09344
Site Address: 187 N. L STREET, LIVERMORE, CA	
Global ID No.: T0600100116	EDF Report: ☐ Yes ☒ No
Client: Ground Zero Analysis, Inc.	Rpt Attn: Ground Zero Analysis, Inc.
Client Address: 1172 Kansas Avenue	Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351	Client Email: gza@groundzeroanalysis.com
Client Phone: (209) 522-4119	Client Fax: (209) 522-4227
Sampling Info:	Sampled By (initials): AD, GZA

Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested: TPH-G, BTEX, MTBE (8260)	Analysis Requested: TPH-G, BTEX, MTBE (8260)
4-28-14	1215		GW-INF -1	4	W	HCL		X
4-28-14	1240		SVE-INF LOWER - 2	1	G	—	X	

Laboratory: BCLABS

Purchase Order # 1262-703276

Turnaround Time: (S = Standard) 1 day 2 day 3 day 5 day

Email Lab Report (.pdf): ☒ Yes ☐ No

Email EDF Lab Report (.zip): ☐ Yes ☐ No

Mail Lab Report: ☐ Yes ☐ No

Special Instructions / Remarks

CHK BY DISTRIBUTION SUB-OUT

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	4-28-14	1600
Received / Relinquished by:	Ross Dickey	BC LABS	4.28.14	1600
Received / Relinquished by:	Ross Dickey	BC LABS	4.28.14	1705

EL ☒ Please return cooler / ice chest to Ground Zero Analysis, Inc. 04-28-14

REC James Bogan 4-28-14 1705
REL James Bogan 4-28-14 1830 REC ☒ 4-28-14

4.28.14 1705

Rev. 3/2014

Chain of Custody and Cooler Receipt Form for 1409344 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 of 2

Submission #: 14-09344

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: Bot Thermometer ID: 207 Date/Time 4/28/14 2105

Temperature: (A) 1.4 °C / (C) 1.3 °C Analyst Init TT

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A ( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Chain of Custody and Cooler Receipt Form for 1409344 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 of 2

Submission #: 14-09344

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☐ None ☐ Box ☒ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: ____ Container: Tedlar Thermometer ID: ____ Date/Time 4-28-14 2145

Temperature: (A) Room °C / (C) Temp °C Analyst Init M

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG- Tedlar		A								
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: BP Date/Time: 4/28/14 2350

I:\AllyDOCS\WordPerfect\LAB_DOCS\FORMS\SAMREC15]

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1409344-01 | **Client Sample Name:** GW-INF, 4/28/2014 12:15:00PM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**17**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**7.7**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Toluene	**3.0**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**22**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.25	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	0.23	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.18	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	**1800**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	04/30/14	04/30/14 20:32	JMS	MS-V10	1	BXD2134

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1409344-01	**COC Number:**	---	**Receive Date:**	04/28/2014 21:45
	Project Number:	---	**Sampling Date:**	04/28/2014 12:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	
			Matrix:	
			Sample QC Type (SACode):	
			Cooler ID:	
1409344-02	**COC Number:**	---	**Receive Date:**	04/28/2014 21:45
	Project Number:	---	**Sampling Date:**	04/28/2014 12:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF LOWER	**Lab Matrix:**	Air
	Sampled By:	---	**Sample Type:**	Vapor or Air
			Delivery Work Order:	
			Global ID:	
			Location ID (FieldPoint):	
			Matrix:	
			Sample QC Type (SACode):	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1409344-02 **Client Sample Name:** SVE-INF LOWER, 4/28/2014 12:40:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**21000**	**ug/m3**	**1000**	**110**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	2500	1000	EPA-TO-15	ND	A01	1
Ethylbenzene	**4300**	**ug/m3**	**2500**	**120**	**EPA-TO-15**	ND	**A01**	1
Toluene	**4500**	**ug/m3**	**1000**	**100**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**12000**	**ug/m3**	**5000**	**400**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**560000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	95.5	%	70 - 130 (LCL - UCL)		EPA-TO-15			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	04/30/14	04/30/14 19:15	MJB	MS-A1	500	BXD2282

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXD2134						
Benzene	BXD2134-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXD2134-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXD2134-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXD2134-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXD2134-BLK1	ND	ug/L	1.0	0.36	
t-Amyl Methyl ether	BXD2134-BLK1	ND	ug/L	0.50	0.25	
t-Butyl alcohol	BXD2134-BLK1	ND	ug/L	10	9.4	
Diisopropyl ether	BXD2134-BLK1	ND	ug/L	0.50	0.23	
Ethyl t-butyl ether	BXD2134-BLK1	ND	ug/L	0.50	0.18	
Total Purgeable Petroleum Hydrocarbons	BXD2134-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXD2134-BLK1**	**101**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXD2134-BLK1**	**100**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXD2134-BLK1**	**97.9**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXD2134										
Benzene	BXD2134-BS1	LCS	28.000	25.000	ug/L	112		70 - 130		
Toluene	BXD2134-BS1	LCS	28.020	25.000	ug/L	112		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXD2134-BS1	LCS	9.6700	10.000	ug/L	96.7		75 - 125		
Toluene-d8 (Surrogate)	BXD2134-BS1	LCS	10.180	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXD2134-BS1	LCS	9.9300	10.000	ug/L	99.3		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXD2134	Used client sample: N										
Benzene	MS	1407468-37	ND	30.380	25.000	ug/L		122		70 - 130	
	MSD	1407468-37	ND	30.640	25.000	ug/L	0.9	123	20	70 - 130	
Toluene	MS	1407468-37	ND	29.970	25.000	ug/L		120		70 - 130	
	MSD	1407468-37	ND	31.290	25.000	ug/L	4.3	125	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1407468-37	ND	10.290	10.000	ug/L		103		75 - 125	
	MSD	1407468-37	ND	9.7800	10.000	ug/L	5.1	97.8		75 - 125	
Toluene-d8 (Surrogate)	MS	1407468-37	ND	10.090	10.000	ug/L		101		80 - 120	
	MSD	1407468-37	ND	10.310	10.000	ug/L	2.2	103		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1407468-37	ND	10.370	10.000	ug/L		104		80 - 120	
	MSD	1407468-37	ND	10.010	10.000	ug/L	3.5	100		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXD2282						
Benzene	BXD2282-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXD2282-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXD2282-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXD2282-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXD2282-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXD2282-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXD2282-BLK1**	**95.3**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXD2282										
Benzene	BXD2282-BS1	LCS	15.450	15.974	ug/m3	96.7		70 - 130		
	BXD2282-BSD1	LCSD	15.233	15.974	ug/m3	95.4	1.4	70 - 130	30	
1,1-Difluoroethane	BXD2282-BS1	LCS	ND		ug/m3			70 - 130		
	BXD2282-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXD2282-BS1	LCS	22.358	21.711	ug/m3	103		70 - 130		
	BXD2282-BSD1	LCSD	22.028	21.711	ug/m3	101	1.5	70 - 130	30	
Toluene	BXD2282-BS1	LCS	19.965	18.842	ug/m3	106		70 - 130		
	BXD2282-BSD1	LCSD	19.879	18.842	ug/m3	106	0.4	70 - 130	30	
Total Xylenes	BXD2282-BS1	LCS	70.512	65.132	ug/m3	108		70 - 130		
	BXD2282-BSD1	LCSD	70.143	65.132	ug/m3	108	0.5	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BXD2282-BS1	LCS	70.0	71.6	ug/m3	97.8		70 - 130		
	BXD2282-BSD1	LCSD	70.9	71.6	ug/m3	99.0	1.3	70 - 130		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/01/2014 15:49
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 05/20/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1410487
Invoice ID:	B173600

Enclosed are the results of analyses for samples received by the laboratory on 5/9/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

14-10487

Billing To: Ground Zero Analysis, Inc.

Project #: 1262.2
Project Name: Sullins
Site Address: 1?7 N. L Street, Livermore, CA
Global ID No.: T0600100116
EDF Report: ☐ Yes ☒ No
Client: Ground Zero Analysis, Inc.
Rpt Attn: Ground Zero Analysis, Inc.
Client Address: 1172 Kansas Avenue
Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351
Client Email: gza@groundzeroanalysis.com
Client Phone: (209) 522-4119
Client Fax: (209) 522-4227
Sampling Info: Sampled By (initials): AD, GZA

Laboratory: BC LABS
Purchase Order #: 1262-703276
Turnaround Time: (S) = Standard; 1 day; 2 day; 3 day; 5 day
Email Lab Report (.pdf): ☒ Yes ☐ No
Email EDF Lab Report (.zip): ☐ Yes ☐ No
Mail Lab Report: ☐ Yes ☐ No

Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	TPH-G, BTEX, MTBE (8260)	TPH-G, BTEX, MTBE (TO-15)	Special Instructions / Remarks
5-9-14	1030	-1	GW-INF	4	W	HCL	X		
5-9-14	1100	-2	SVE-INF LOWER	1	G	—		X	

CHK BY: [signature] DISTRIBUTION: [initials] SUB-OUT ☐

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by: [signature]	ANDREW DORN	GZA	5-9-14	1505
Received / Relinquished by: [signature]	Ross Dickey	BC Lab	5.9.14	1505
Received / Relinquished by: [signature]	Ross Dickey	BC Lab	5.9.14	1635

Please return cooler / ice chest to Ground Zero Analysis, Inc.

REC. [initials] 5-9-14 16:35 REL [initials] 5-9-14 19:40 [signature] 5-9-14 1940

Rev. 3/2014

Chain of Custody and Cooler Receipt Form for 1410487 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 1 Of 2

Submission #: 14-10487

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: PE Thermometer ID: 207 Date/Time 5-9-14

Temperature: (A) 1.7 °C / (C) 1.7 °C Analyst Init BP 1940

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A,4 ( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments: 40

Chain of Custody and Cooler Receipt Form for 1410487 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 15 07/01/13 Page 2 of 2

Submission #: 14-10487

SHIPPING INFORMATION
Federal Express ☐ UPS ☐ Hand Delivery
BC Lab Field Service ☑ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☑ None ☐ Box ☒
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☐

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: — Container: Tedlar Thermometer ID: —

Temperature: (A) Room °C / (C) Temp °C

Date/Time 5-9-14 1940

Analyst Init BP

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG Tedlar	A									
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: BP Date/Time: 5-9-14 2104

I:\AM...DOCS\WordPerfect\LAB DOCS\FORMS\SAMREC15I

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1410487-01	**COC Number:**	---	**Receive Date:**	05/09/2014 19:40
	Project Number:	Sulllins	**Sampling Date:**	05/09/2014 10:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): GW-INF	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1410487-02	**COC Number:**	---	**Receive Date:**	05/09/2014 19:40
	Project Number:	Sulllins	**Sampling Date:**	05/09/2014 11:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF LOWER	**Lab Matrix:**	Air
	Sampled By:	GTIM	**Sample Type:**	Vapor or Air
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): SVE-INF LOWER	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1410487-01 | **Client Sample Name:** Sulllins, GW-INF, 5/9/2014 10:30:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	98	ug/L	0.50	0.083	EPA-8260B	ND		1
Ethylbenzene	33	ug/L	0.50	0.098	EPA-8260B	ND		1
Methyl t-butyl ether	3.4	ug/L	0.50	0.11	EPA-8260B	ND		1
Toluene	22	ug/L	0.50	0.093	EPA-8260B	ND		1
Total Xylenes	120	ug/L	1.0	0.36	EPA-8260B	ND		1
p- & m-Xylenes	85	ug/L	0.50	0.28	EPA-8260B	ND		1
o-Xylene	33	ug/L	0.50	0.082	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	2300	ug/L	50	7.2	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	05/19/14	05/19/14 18:01	JMS	MS-V10	1	BXE1400

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1410487-02 | **Client Sample Name:** Sulllins, SVE-INF LOWER, 5/9/2014 11:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**76000**	**ug/m3**	**2000**	**220**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	500	200	EPA-TO-15	ND	A01	2
Ethylbenzene	**13000**	**ug/m3**	**500**	**23**	**EPA-TO-15**	ND	**A01**	2
Methyl t-butyl ether	ND	ug/m3	200	42	EPA-TO-15	ND	A01	2
Toluene	**12000**	**ug/m3**	**200**	**20**	**EPA-TO-15**	ND	**A01**	2
p- & m-Xylenes	**22000**	**ug/m3**	**500**	**49**	**EPA-TO-15**	ND	**A01**	2
o-Xylene	**5700**	**ug/m3**	**500**	**31**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**28000**	**ug/m3**	**1000**	**80**	**EPA-TO-15**	ND	**A01**	2
Total Petroleum Hydrocarbons	**1000000**	**ug/m3**	**200000**	**39000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	103	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	95.7	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	05/12/14	05/13/14 16:38	MJB	MS-A1	1000	BXE0900
2	EPA-TO-15	05/12/14	05/12/14 16:04	MJB	MS-A1	100	BXE0900

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXE1400						
Benzene	BXE1400-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXE1400-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXE1400-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXE1400-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXE1400-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXE1400-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXE1400-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXE1400-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXE1400-BLK1**	**104**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXE1400-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXE1400-BLK1**	**98.3**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXE1400										
Benzene	BXE1400-BS1	LCS	23.570	25.000	ug/L	94.3		70 - 130		
Toluene	BXE1400-BS1	LCS	24.490	25.000	ug/L	98.0		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXE1400-BS1	LCS	10.190	10.000	ug/L	102		75 - 125		
Toluene-d8 (Surrogate)	BXE1400-BS1	LCS	9.7500	10.000	ug/L	97.5		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXE1400-BS1	LCS	10.780	10.000	ug/L	108		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXE1400	Used client sample: N										
Benzene	MS	1407468-78	ND	25.970	25.000	ug/L		104		70 - 130	
	MSD	1407468-78	ND	26.550	25.000	ug/L	2.2	106	20	70 - 130	
Toluene	MS	1407468-78	ND	26.330	25.000	ug/L		105		70 - 130	
	MSD	1407468-78	ND	28.220	25.000	ug/L	6.9	113	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1407468-78	ND	10.080	10.000	ug/L		101		75 - 125	
	MSD	1407468-78	ND	10.150	10.000	ug/L	0.7	102		75 - 125	
Toluene-d8 (Surrogate)	MS	1407468-78	ND	9.4500	10.000	ug/L		94.5		80 - 120	
	MSD	1407468-78	ND	10.050	10.000	ug/L	6.2	100		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1407468-78	ND	10.460	10.000	ug/L		105		80 - 120	
	MSD	1407468-78	ND	10.490	10.000	ug/L	0.3	105		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXE0900						
Benzene	BXE0900-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXE0900-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXE0900-BLK1	ND	ug/m3	5.0	0.23	
Methyl t-butyl ether	BXE0900-BLK1	ND	ug/m3	2.0	0.42	
Toluene	BXE0900-BLK1	ND	ug/m3	2.0	0.20	
p- & m-Xylenes	BXE0900-BLK1	ND	ug/m3	5.0	0.49	
o-Xylene	BXE0900-BLK1	ND	ug/m3	5.0	0.31	
Total Xylenes	BXE0900-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXE0900-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXE0900-BLK1**	**98.7**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXE0900										
Benzene	BXE0900-BS1	LCS	19.546	15.974	ug/m3	122		70 - 130		
	BXE0900-BSD1	LCSD	19.248	15.974	ug/m3	120	1.5	70 - 130	30	
1,1-Difluoroethane	BXE0900-BS1	LCS	ND		ug/m3			70 - 130		
	BXE0900-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXE0900-BS1	LCS	24.138	21.711	ug/m3	111		70 - 130		
	BXE0900-BSD1	LCSD	23.947	21.711	ug/m3	110	0.8	70 - 130	30	
Methyl t-butyl ether	BXE0900-BS1	LCS	22.446	18.026	ug/m3	125		70 - 130		
	BXE0900-BSD1	LCSD	22.659	18.026	ug/m3	126	0.9	70 - 130	30	
Toluene	BXE0900-BS1	LCS	21.721	18.842	ug/m3	115		70 - 130		
	BXE0900-BSD1	LCSD	21.710	18.842	ug/m3	115	0.1	70 - 130	30	
p- & m-Xylenes	BXE0900-BS1	LCS	47.047	43.421	ug/m3	108		70 - 130		
	BXE0900-BSD1	LCSD	46.865	43.421	ug/m3	108	0.4	70 - 130	30	
o-Xylene	BXE0900-BS1	LCS	23.261	21.711	ug/m3	107		70 - 130		
	BXE0900-BSD1	LCSD	23.621	21.711	ug/m3	109	1.5	70 - 130	30	
Total Xylenes	BXE0900-BS1	LCS	70.308	65.132	ug/m3	108		70 - 130		
	BXE0900-BSD1	LCSD	70.486	65.132	ug/m3	108	0.3	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BXE0900-BS1	LCS	73.1	71.6	ug/m3	102		70 - 130		
	BXE0900-BSD1	LCSD	73.6	71.6	ug/m3	103	0.6	70 - 130		

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 07/02/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1413711
Invoice ID:	B177150

Enclosed are the results of analyses for samples received by the laboratory on 6/18/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 05/20/2014 12:25
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

#14-13711

Billing To: Ground Zero Analysis, Inc.

Project #:	Project Name:
126272	Sullins

Site Address: 187 N. L Street, Livermore, CA

Global ID No.: T0600100116 | EDF Report: ☒ Yes ☐ No

Client: Ground Zero Analysis, Inc. | Rpt Attn: Ground Zero Anaysis, Inc.

Client Address: 1172 Kansas Avenue | Type of Event: (GWM) Sys Monitoring Drilling Other

City, State, Zip: Modesto, CA 95351 | Client Email: gza@groundzeroanalysis.com

Client Phone: (209) 522-4119 | Client Fax: (209) 522-4227

Sampling Info: Sampled By (initials): _____, GZA

	Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	TPH-G, BTEX, MTBE 8260
1	6/17/14	1130		W-BS	4	W	HCL	X
2		1155		W-1S	1			
3		1330		W-1				
4		1215		W-A				
5		1325		MW-404				
6		1355		MW-104	3			
7		1345		MW-204	4			
8		1250		MW-205				
9		1030		MW-206				
10		1205		MW-207				
11		1110		MW-208				
12		1335		MW-304				
13		1245		MW-305				
14		1215		MW-307				
15		1100		MW-308				

Analysis Requested

Laboratory: BC Labs

Purchase Order #

Turnaround Time: (S = Standard) 1 day 2 day 3 day 5 day

Email Lab Report (.pdf): ☒ Yes ☐ No

Email EDF Lab Report (.zip): ☒ Yes ☐ No

Mail Lab Report: ☐ Yes ☐ No

Special Instructions / Remarks

* Please use the following reporting Limits:
TPH-G 50.0 ug/L
BTEX 0.5 ug/L
MTBE 0.5 ug/L

SHIP BY: DISTRIBUTION

SUB-OUT ☐

	Signature	Print Name	Company	Date:	Time:
Received (Relinquished by):		ANDREW DORN	GZA	6-18-14	1220
Received / Relinquished by:	Ross Dickey	Ross Dickey	BCLAB	6.18.14	1220
Received / Relinquished by:	Ross Dickey	Ross Dickey	BCLAB	6.18.14	1930

Please return cooler / ice chest to Ground Zero Analysis, Inc. REC. 6-18-14 19:30 REL 6.18.14 0820 6-18-14 0820

Rev. 3/2014

Table of Contents

Chain of Custody and Cooler Receipt Form for 1413711 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 17 06/05/14 Page 1 Of 2

Submission #: 14-13711

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments;

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.97 Container: VOA Thermometer ID: 207 Date/Time 6/18/14 2320

Temperature: (A) 2.3 °C / (C) 2.6 °C Analyst Init: BP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A (4)	A (4)	A (4)	A (4)	A (4)	A (3)	A (4)	A (4)	A (4)	A (4)
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
4oz Amber EPA 548										
QT EPA 549										
PT EPA 632										
PT EPA 8015M										
PT AMBER										
4 OZ. JAR										
2 OZ. JAR										
SOIL SLEEVE										
VOB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: Main Date/Time: 6/19/14 1245 I:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC16

Chain of Custody and Cooler Receipt Form for 1413711 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 17 06/05/14 Page 2 Of 2

Submission #: 14-13711

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments;

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.97 Container: VOA Thermometer ID: 207 Date/Time 6/18/14 2320

Temperature: (A) 2.3 °C / (C) 2.6 °C Analyst Init: RP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A M	A M	A M	A M	A M	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: MM Date/Time: 6/19/14 1245 [S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC16

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1413711-04	**COC Number:**	---	**Receive Date:** 06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:** 06/17/2014 12:15
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	W - A	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): W - A
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1413711-05	**COC Number:**	---	**Receive Date:** 06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:** 06/17/2014 13:25
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW - 404	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): MW - 404
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1413711-06	**COC Number:**	---	**Receive Date:** 06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:** 06/17/2014 13:55
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW - 104	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): MW - 104
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1413711-01	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 11:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	W - BS	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): W - BS	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1413711-02	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 11:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	W - 1S	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): W - 1S	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1413711-03	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 13:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	W - 1	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): W - 1	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1413711-07	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 13:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW - 204	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW - 204	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1413711-08	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 12:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW - 205	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW - 205	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1413711-09	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 10:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW - 206	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW - 206	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1413711-13	**COC Number:** ---	**Receive Date:**	06/18/2014 23:20
	Project Number: Sullins	**Sampling Date:**	06/17/2014 12:45
	Sampling Location: ---	**Sample Depth:**	---
	Sampling Point: MW - 305	**Lab Matrix:**	Water
	Sampled By: Andrew Dorn of GTIM	**Sample Type:**	Groundwater
		Delivery Work Order:	
		Global ID: T0600100116	
		Location ID (FieldPoint): MW - 305	
		Matrix: W	
		Sample QC Type (SACode): CS	
		Cooler ID:	
1413711-14	**COC Number:** ---	**Receive Date:**	06/18/2014 23:20
	Project Number: Sullins	**Sampling Date:**	06/17/2014 12:15
	Sampling Location: ---	**Sample Depth:**	---
	Sampling Point: MW - 307	**Lab Matrix:**	Water
	Sampled By: Andrew Dorn of GTIM	**Sample Type:**	Groundwater
		Delivery Work Order:	
		Global ID: T0600100116	
		Location ID (FieldPoint): MW - 307	
		Matrix: W	
		Sample QC Type (SACode): CS	
		Cooler ID:	
1413711-15	**COC Number:** ---	**Receive Date:**	06/18/2014 23:20
	Project Number: Sullins	**Sampling Date:**	06/17/2014 11:00
	Sampling Location: ---	**Sample Depth:**	---
	Sampling Point: MW - 308	**Lab Matrix:**	Water
	Sampled By: Andrew Dorn of GTIM	**Sample Type:**	Groundwater
		Delivery Work Order:	
		Global ID: T0600100116	
		Location ID (FieldPoint): MW - 308	
		Matrix: W	
		Sample QC Type (SACode): CS	
		Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1413711-10	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 12:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW - 207	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW - 207	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1413711-11	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 11:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW - 208	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW - 208	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1413711-12	**COC Number:**	---	**Receive Date:**	06/18/2014 23:20
	Project Number:	Sullins	**Sampling Date:**	06/17/2014 13:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW - 304	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW - 304	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-01 | **Client Sample Name:** Sullins, W - BS, 6/17/2014 11:30:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**26**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**0.67**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Methyl t-bulyl ether	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Toluene	**1.3**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**2.5**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**1.2**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**1.3**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**190**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	96.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 14:09	JMS	MS-V12	1	BXG0077

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-02 | **Client Sample Name:** Sullins, W - 1S, 6/17/2014 11:55:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**9.3**	**ug/L**	**1.0**	**0.17**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	ND	ug/L	1.0	0.20	EPA-8260B	ND	A01	1
Methyl t-butyl ether	ND	ug/L	1.0	0.22	EPA-8260B	ND	A01	1
Toluene	ND	ug/L	1.0	0.19	EPA-8260B	ND	A01	1
Total Xylenes	ND	ug/L	2.0	0.72	EPA-8260B	ND	A01	1
p- & m-Xylenes	ND	ug/L	1.0	0.56	EPA-8260B	ND	A01	1
o-Xylene	ND	ug/L	1.0	0.16	EPA-8260B	ND	A01	1
Total Purgeable Petroleum Hydrocarbons	**320**	**ug/L**	**100**	**14**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	97.9	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	86.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 14:44	JMS	MS-V12	2	BXG0077

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-03 | **Client Sample Name:** Sullins, W - 1, 6/17/2014 1:30:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**2200**	**ug/L**	**25**	**4.2**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**1500**	**ug/L**	**25**	**4.9**	**EPA-8260B**	ND	**A01,S05**	1
Methyl t-butyl ether	**23**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**210**	**ug/L**	**25**	**4.6**	**EPA-8260B**	ND	**A01,S05**	1
Total Xylenes	**2900**	**ug/L**	**50**	**18**	**EPA-8260B**	ND	**A01,S05**	1
p- & m-Xylenes	**2500**	**ug/L**	**25**	**14**	**EPA-8260B**	ND	**A01,S05**	1
o-Xylene	**370**	**ug/L**	**25**	**4.1**	**EPA-8260B**	ND	**A01,S05**	1
Total Purgeable Petroleum Hydrocarbons	**25000**	**ug/L**	**2500**	**360**	**Luft-GC/MS**	ND	**A01,S05**	1
1,2-Dichloroethane-d4 (Surrogate)	87.0	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	93.8	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	92.8	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	84.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	83.6	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 12:35	JMS	MS-V12	50	BXG0077
2	EPA-8260B	07/01/14	07/01/14 18:23	JMS	MS-V12	1	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-04 | **Client Sample Name:** Sullins, W - A, 6/17/2014 12:15:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**2200**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**170**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**21**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**84**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**250**	**ug/L**	**25**	**9.0**	**EPA-8260B**	ND	**A01**	1
p- & m-Xylenes	**190**	**ug/L**	**12**	**7.0**	**EPA-8260B**	ND	**A01**	1
o-Xylene	**68**	**ug/L**	**12**	**2.0**	**EPA-8260B**	ND	**A01**	1
Total Purgeable Petroleum Hydrocarbons	**6100**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	107	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	90.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	93.7	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 18:59	JMS	MS-V12	25	BXG0077
2	EPA-8260B	07/01/14	07/01/14 15:02	JMS	MS-V12	1	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-05 | **Client Sample Name:** Sullins, MW - 404, 6/17/2014 1:25:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**4500**	**ug/L**	**25**	**4.2**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**130**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01**	2
Methyl t-butyl ether	**21**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		3
Toluene	**100**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		3
Total Xylenes	**240**	**ug/L**	**25**	**9.0**	**EPA-8260B**	ND	**A01**	2
p- & m-Xylenes	**180**	**ug/L**	**12**	**7.0**	**EPA-8260B**	ND	**A01**	2
o-Xylene	**62**	**ug/L**	**12**	**2.0**	**EPA-8260B**	ND	**A01**	2
Total Purgeable Petroleum Hydrocarbons	**6500**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01**	2
1,2-Dichloroethane-d4 (Surrogate)	89.1	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-8260B			2
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-8260B			3
Toluene-d8 (Surrogate)	94.9	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	94.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	88.4	%	80 - 120 (LCL - UCL)		EPA-8260B			3
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	99.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	106	%	80 - 120 (LCL - UCL)		EPA-8260B			3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 12:53	JMS	MS-V12	50	BXG0077
2	EPA-8260B	07/01/14	07/01/14 19:17	JMS	MS-V12	25	BXG0077
3	EPA-8260B	07/01/14	07/01/14 15:38	JMS	MS-V12	1	BXG0077

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Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-06 | **Client Sample Name:** Sullins, MW - 104, 6/17/2014 1:55:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**2400**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**320**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**30**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**76**	**ug/L**	**12**	**2.3**	**EPA-8260B**	ND	**A01**	1
Total Xylenes	**510**	**ug/L**	**25**	**9.0**	**EPA-8260B**	ND	**A01**	1
p- & m-Xylenes	**410**	**ug/L**	**12**	**7.0**	**EPA-8260B**	ND	**A01**	1
o-Xylene	**99**	**ug/L**	**12**	**2.0**	**EPA-8260B**	ND	**A01**	1
Total Purgeable Petroleum Hydrocarbons	**7200**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	99.0	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	93.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.4	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 19:54	JMS	MS-V12	25	BXG0077
2	EPA-8260B	07/01/14	07/01/14 15:56	JMS	MS-V12	1	BXG0077

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Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-07 | **Client Sample Name:** Sullins, MW - 204, 6/17/2014 1:45:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**790**	**ug/L**	**5.0**	**0.83**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**100**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		2
Methyl t-butyl ether	**0.51**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**37**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**210**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**160**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**47**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**2300**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		2
1,2-Dichloroethane-d4 (Surrogate)	86.1	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	92.8	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	92.5	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	96.4	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	95.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 09:14	JMS	MS-V12	10	BXG0077
2	EPA-8260B	07/01/14	07/01/14 16:14	JMS	MS-V12	1	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-08 | **Client Sample Name:** Sullins, MW - 205, 6/17/2014 12:50:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**4300**	**ug/L**	**50**	**8.3**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**200**	**ug/L**	**25**	**4.9**	**EPA-8260B**	ND	**A01,S05**	2
Methyl t-butyl ether	**41**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		3
Toluene	**63**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		3
Total Xylenes	**120**	**ug/L**	**50**	**18**	**EPA-8260B**	ND	**A01,S05**	2
p- & m-Xylenes	**90**	**ug/L**	**25**	**14**	**EPA-8260B**	ND	**A01,S05**	2
o-Xylene	**26**	**ug/L**	**25**	**4.1**	**EPA-8260B**	ND	**A01,S05**	2
Total Purgeable Petroleum Hydrocarbons	**9900**	**ug/L**	**2500**	**360**	**Luft-GC/MS**	ND	**A01,S05**	2
1,2-Dichloroethane-d4 (Surrogate)	85.7	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	87.3	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	2
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-8260B			3
Toluene-d8 (Surrogate)	96.8	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	90.4	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	2
Toluene-d8 (Surrogate)	90.2	%	80 - 120 (LCL - UCL)		EPA-8260B			3
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	92.6	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	2
4-Bromofluorobenzene (Surrogate)	112	%	80 - 120 (LCL - UCL)		EPA-8260B			3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 09:50	JMS	MS-V12	100	BXG0077
2	EPA-8260B	07/01/14	07/02/14 13:11	JMS	MS-V12	50	BXG0077
3	EPA-8260B	07/01/14	07/01/14 18:04	JMS	MS-V12	1	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-09 | **Client Sample Name:** Sullins, MW - 206, 6/17/2014 10:30:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**0.87**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260B	ND		1
Methyl t-butyl ether	**1.3**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	0.093	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260B	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260B	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	**73**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	92.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 14:27	JMS	MS-V12	1	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-10 | **Client Sample Name:** Sullins, MW - 207, 6/17/2014 12:05:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**5900**	**ug/L**	**50**	**8.3**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**240**	**ug/L**	**2.5**	**0.49**	**EPA-8260B**	ND	**A01**	2
Methyl t-butyl ether	**84**	**ug/L**	**2.5**	**0.55**	**EPA-8260B**	ND	**A01**	2
Toluene	**53**	**ug/L**	**2.5**	**0.46**	**EPA-8260B**	ND	**A01**	2
Total Xylenes	**110**	**ug/L**	**5.0**	**1.8**	**EPA-8260B**	ND	**A01**	2
p- & m-Xylenes	**88**	**ug/L**	**2.5**	**1.4**	**EPA-8260B**	ND	**A01**	2
o-Xylene	**20**	**ug/L**	**2.5**	**0.41**	**EPA-8260B**	ND	**A01**	2
Total Purgeable Petroleum Hydrocarbons	**6600**	**ug/L**	**250**	**36**	**Luft-GC/MS**	ND	**A01**	2
1,2-Dichloroethane-d4 (Surrogate)	89.0	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	96.3	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	92.5	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	97.6	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	97.9	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 09:32	JMS	MS-V12	100	BXG0077
2	EPA-8260B	07/01/14	07/01/14 17:28	JMS	MS-V12	5	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-11 | **Client Sample Name:** Sullins, MW - 208, 6/17/2014 11:10:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**1100**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**77**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01,S05**	1
Methyl t-butyl ether	**31**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**34**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**110**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**90**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**19**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**3300**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01,S05**	1
1,2-Dichloroethane-d4 (Surrogate)	81.5	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	92.5	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	85.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	99.7	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	111	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 08:23	JMS	MS-V12	25	BXG0077
2	EPA-8260B	07/01/14	07/01/14 16:34	JMS	MS-V12	1	BXG0077

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Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-12 | **Client Sample Name:** Sullins, MW - 304, 6/17/2014 1:35:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**1300**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**62**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01,S05**	1
Methyl t-butyl ether	**9.0**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**96**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**390**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**290**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**100**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**3000**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01,S05**	1
1,2-Dichloroethane-d4 (Surrogate)	84.6	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	93.2	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	90.7	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 08:40	JMS	MS-V12	25	BXG0077
2	EPA-8260B	07/01/14	07/01/14 16:52	JMS	MS-V12	1	BXG0077

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-13 | **Client Sample Name:** Sullins, MW - 305, 6/17/2014 12:45:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**940**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND	**S01**	1
Ethylbenzene	**130**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND	**S01**	1
Methyl t-butyl ether	**3.8**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		1
Toluene	**36**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**150**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**110**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**35**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**2300**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND	**S01**	1
1,2-Dichloroethane-d4 (Surrogate)	107	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.9	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 17:46	JMS	MS-V12	1	BXG0077

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-14 | **Client Sample Name:** Sullins, MW - 307, 6/17/2014 12:15:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**520**	**ug/L**	**5.0**	**0.83**	**EPA-8260B**	ND	**A01,S05**	1
Ethylbenzene	**43**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		2
Methyl t-butyl ether	**1.6**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**8.3**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**28**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**21**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**6.9**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**1100**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		2
1,2-Dichloroethane-d4 (Surrogate)	83.6	%	75 - 125 (LCL - UCL)		EPA-8260B		S05	1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	94.5	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
Toluene-d8 (Surrogate)	95.8	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	96.9	%	80 - 120 (LCL - UCL)		EPA-8260B		S05	1
4-Bromofluorobenzene (Surrogate)	95.7	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/02/14 08:05	JMS	MS-V12	10	BXG0077
2	EPA-8260B	07/01/14	07/01/14 17:10	JMS	MS-V12	1	BXG0077

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1413711-15 | **Client Sample Name:** Sullins, MW - 308, 6/17/2014 11:00:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**1300**	**ug/L**	**10**	**1.7**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**110**	**ug/L**	**10**	**2.0**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**9.1**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**20**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**58**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**46**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**12**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**3000**	**ug/L**	**1000**	**140**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	98.9	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	92.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.0	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	98.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.5	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/01/14	07/01/14 19:35	JMS	MS-V12	20	BXG0077
2	EPA-8260B	07/01/14	07/01/14 15:20	JMS	MS-V12	1	BXG0077

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXG0077						
Benzene	BXG0077-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXG0077-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXG0077-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXG0077-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXG0077-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXG0077-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXG0077-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXG0077-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXG0077-BLK1**	**95.2**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXG0077-BLK1**	**94.4**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXG0077-BLK1**	**99.6**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXG0077										
Benzene	BXG0077-BS1	LCS	27.730	25.000	ug/L	111		70 - 130		
Toluene	BXG0077-BS1	LCS	27.390	25.000	ug/L	110		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXG0077-BS1	LCS	10.430	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	BXG0077-BS1	LCS	9.8600	10.000	ug/L	98.6		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXG0077-BS1	LCS	10.300	10.000	ug/L	103		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXG0077	Used client sample: N										
Benzene	MS	1411671-51	ND	25.660	25.000	ug/L		103		70 - 130	
	MSD	1411671-51	ND	24.400	25.000	ug/L	5.0	97.6	20	70 - 130	
Toluene	MS	1411671-51	ND	24.720	25.000	ug/L		98.9		70 - 130	
	MSD	1411671-51	ND	24.340	25.000	ug/L	1.5	97.4	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1411671-51	ND	9.8700	10.000	ug/L		98.7		75 - 125	
	MSD	1411671-51	ND	9.5600	10.000	ug/L	3.2	95.6		75 - 125	
Toluene-d8 (Surrogate)	MS	1411671-51	ND	9.6000	10.000	ug/L		96.0		80 - 120	
	MSD	1411671-51	ND	9.9200	10.000	ug/L	3.3	99.2		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1411671-51	ND	10.230	10.000	ug/L		102		80 - 120	
	MSD	1411671-51	ND	10.260	10.000	ug/L	0.3	103		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 17:09
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.
S01	Sample result is not within the quantitation range of the method.
S05	The sample holding time was exceeded.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 07/02/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1414337
Invoice ID:	B177140

Enclosed are the results of analyses for samples received by the laboratory on 6/27/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

14-14337

Billing To: Ground Zero Analysis, Inc.

Project #: 12622	Project Name: SULLINS
Site Address: 187 N. L STREET, LIVERMORE, CA	
Global ID No.: T0600100116	EDF Report: ☐ Yes ☒ No
Client: Ground Zero Analysis, Inc.	Rpt Attn: Ground Zero Analysis, Inc.
Client Address: 1172 Kansas Avenue	Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351	Client Email: gza@groundzeroanalysis.com
Client Phone: (209) 522-4119	Client Fax: (209) 522-4227
Sampling Info:	Sampled By (initials): AD, GZA

Laboratory: BC LABS

Purchase Order # 1262-703276

Turnaround Time: (S) = Standard; 1 day; 2 day; 3 day; 5 day

Email Lab Report (.pdf): ☒ Yes ☐ No

Email EDF Lab Report (.zip): ☐ Yes ☐ No

Mail Lab Report: ☐ Yes ☐ No

Analysis Requested

Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	TO-15 - TPH-G, BTEX, MTBE	8260 - TPH-G, BTEX, MTBE	Special Instructions / Remarks
6-26-14	1225	-1	GW-INF	4	W	HCL		X	
6-26-14	1215	-2	SVE-INF LOWER	1	G	NONE	X		

CHK BY [initials] DISTRIBUTION [initials] SUB-OUT ☐

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by: [signature]	ANDREW DORN	GZA	6.27.14	1327
Received / Relinquished by: Ross Dickey	ROSS DICKEY	BCLABS	6.27.14	1610
Received / Relinquished by: Gary Bogan	GARY BOGAN	BCLAB	6-27-14	1730

Please return cooler / ice chest to Ground Zero Analysis, Inc.

REL [initials] 6-27-14 REL Gary Bogan 6-27-14 1815 REC [initials] 6.27.14 2140

Rev. 3/2014

Chain of Custody and Cooler Receipt Form for 1414337 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 17 06/05/14 Page 1 Of 2

Submission #: 14-14337

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments;

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☑ No ☐

☒ COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 207 Date/Time: 6/27/14 2140

Temperature: (A) 1.6 °C / (C) 1.8 °C Analyst Init: BP

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A M ( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
4oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
4OZ. JAR										
2 OZ. JAR										
OIL SLEEVE										
CB VIAL	BP 6/27									
PLASTIC BAG Teflon										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: BP Date/Time: 6/27/14 2215 S:\WPDocs\WordPerfect\LAB DOCS\FORMS\SAMREC16

Chain of Custody and Cooler Receipt Form for 1414337 Page 3 of 3

BC LABORATORIES INC.	COOLER RECEIPT FORM	Rev. No. 17 06/05/14	Page 2 Of 2
Submission #: 14-14337			

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☐ None ☐ Box ☒ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments;

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: — Container: Tedlar Thermometer ID: —

Temperature: (A) Room °C / (C) Temp °C

Date/Time 6/27/14 0140

Analyst Init BP

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG Tedlar		H								
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: BP Date/Time 6/27/14 2215 (S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC16

A = Actual / C = Corrected

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1414337-01	**COC Number:**	---	**Receive Date:**	06/27/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	06/26/2014 12:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): GW-INF			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1414337-02	**COC Number:**	---	**Receive Date:**	06/27/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	06/26/2014 12:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF LOWER	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Other
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): SVE-INF LOWER			
	Matrix: GS			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1414337-01 | **Client Sample Name:** Sullins, GW-INF, 6/26/2014 12:25:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**17**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**2.5**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Methyl t-butyl ether	**0.87**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		1
Toluene	**1.0**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**9.1**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**7.0**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**2.1**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**610**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	96.9	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/30/14	07/02/14 08:24	MGC	MS-V5	1	BXF2351

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1414337-02 | **Client Sample Name:** Sullins, SVE-INF LOWER, 6/26/2014 12:15:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**15000**	**ug/m3**	**1000**	**110**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	500	200	EPA-TO-15	ND	A01	2
Ethylbenzene	**1900**	**ug/m3**	**500**	**23**	**EPA-TO-15**	ND	**A01**	2
Methyl t-butyl ether	ND	ug/m3	200	42	EPA-TO-15	ND	A01	2
Toluene	**1700**	**ug/m3**	**200**	**20**	**EPA-TO-15**	ND	**A01**	2
p- & m-Xylenes	**4700**	**ug/m3**	**500**	**49**	**EPA-TO-15**	ND	**A01**	2
o-Xylene	**970**	**ug/m3**	**500**	**31**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**5600**	**ug/m3**	**1000**	**80**	**EPA-TO-15**	ND	**A01**	2
Total Petroleum Hydrocarbons	**1200000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	105	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	97.9	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	06/30/14	07/01/14 12:05	MJB	MS-A1	500	BXF2302
2	EPA-TO-15	06/30/14	06/30/14 16:33	MJB	MS-A1	100	BXF2302

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXF2351						
Benzene	BXF2351-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXF2351-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXF2351-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXF2351-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXF2351-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXF2351-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXF2351-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXF2351-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXF2351-BLK1**	**96.8**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXF2351-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXF2351-BLK1**	**94.1**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXF2351										
Benzene	BXF2351-BS1	LCS	23.220	25.000	ug/L	92.9		70 - 130		
Toluene	BXF2351-BS1	LCS	23.640	25.000	ug/L	94.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXF2351-BS1	LCS	9.6400	10.000	ug/L	96.4		75 - 125		
Toluene-d8 (Surrogate)	BXF2351-BS1	LCS	10.120	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXF2351-BS1	LCS	10.090	10.000	ug/L	101		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXF2351	Used client sample: N										
Benzene	MS	1414265-02	ND	23.590	25.000	ug/L		94.4		70 - 130	
	MSD	1414265-02	ND	24.270	25.000	ug/L	2.8	97.1	20	70 - 130	
Toluene	MS	1414265-02	ND	24.290	25.000	ug/L		97.2		70 - 130	
	MSD	1414265-02	ND	24.670	25.000	ug/L	1.6	98.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1414265-02	ND	9.2700	10.000	ug/L		92.7		75 - 125	
	MSD	1414265-02	ND	9.4800	10.000	ug/L	2.2	94.8		75 - 125	
Toluene-d8 (Surrogate)	MS	1414265-02	ND	10.190	10.000	ug/L		102		80 - 120	
	MSD	1414265-02	ND	10.090	10.000	ug/L	1.0	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1414265-02	ND	10.010	10.000	ug/L		100		80 - 120	
	MSD	1414265-02	ND	10.230	10.000	ug/L	2.2	102		80 - 120	

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXF2302						
Benzene	BXF2302-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXF2302-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXF2302-BLK1	ND	ug/m3	5.0	0.23	
Methyl t-butyl ether	BXF2302-BLK1	ND	ug/m3	2.0	0.42	
Toluene	BXF2302-BLK1	ND	ug/m3	2.0	0.20	
p- & m-Xylenes	BXF2302-BLK1	ND	ug/m3	5.0	0.49	
o-Xylene	BXF2302-BLK1	ND	ug/m3	5.0	0.31	
Total Xylenes	BXF2302-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXF2302-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXF2302-BLK1**	**63.8**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXF2302										
Benzene	BXF2302-BS1	LCS	13.958	15.974	ug/m3	87.4		70 - 130		
	BXF2302-BSD1	LCSD	14.121	15.974	ug/m3	88.4	1.2	70 - 130	30	
1,1-Difluoroethane	BXF2302-BS1	LCS	ND		ug/m3			70 - 130		
	BXF2302-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXF2302-BS1	LCS	18.728	21.711	ug/m3	86.3		70 - 130		
	BXF2302-BSD1	LCSD	18.484	21.711	ug/m3	85.1	1.3	70 - 130	30	
Methyl t-butyl ether	BXF2302-BS1	LCS	16.948	18.026	ug/m3	94.0		70 - 130		
	BXF2302-BSD1	LCSD	17.132	18.026	ug/m3	95.0	1.1	70 - 130	30	
Toluene	BXF2302-BS1	LCS	20.108	18.842	ug/m3	107		70 - 130		
	BXF2302-BSD1	LCSD	20.188	18.842	ug/m3	107	0.4	70 - 130	30	
p- & m-Xylenes	BXF2302-BS1	LCS	39.413	43.421	ug/m3	90.8		70 - 130		
	BXF2302-BSD1	LCSD	39.188	43.421	ug/m3	90.2	0.6	70 - 130	30	
o-Xylene	BXF2302-BS1	LCS	18.806	21.711	ug/m3	86.6		70 - 130		
	BXF2302-BSD1	LCSD	18.832	21.711	ug/m3	86.7	0.1	70 - 130	30	
Total Xylenes	BXF2302-BS1	LCS	58.219	65.132	ug/m3	89.4		70 - 130		
	BXF2302-BSD1	LCSD	58.019	65.132	ug/m3	89.1	0.3	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BXF2302-BS1	LCS	80.0	71.6	ug/m3	112		70 - 130		
	BXF2302-BSD1	LCSD	79.2	71.6	ug/m3	111	1.0	70 - 130		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/02/2014 16:10
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 07/17/2014

Project Manager

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1415634
Invoice ID:	B178451

Enclosed are the results of analyses for samples received by the laboratory on 7/11/2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Authorized Signature

Table of Contents

GROUND ZERO ANALYSIS, INC.
1172 Kansas Avenue
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gza@groundzeroanalysis.com

Chain of Custody

Page 1 of 1

14-15634

Billing To: Ground Zero Analysis, Inc.

Project #:	Project Name:
1262.2	SULLINS

Site Address: 187 NORTH L STREET, LIVERMORE, CA

Global ID No.:	EDF Report: ☐ Yes ☒ No
Client: Ground Zero Analysis, Inc.	Rpt Attn: Ground Zero Anaysis, Inc.
Client Address: 1172 Kansas Avenue	Type of Event: GWM (Sys Monitoring) Drilling Other
City, State, Zip: Modesto, CA 95351	Client Email: gza@groundzeroanalysis.com
Client Phone: (209) 522-4119	Client Fax: (209) 522-4227

Sampling Info: Sampled By (initials): AD, GZA

Date	Time	EDF Field ID	Sample I.D./Description / Location	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested: 8260 - TPH-G, BTEX, MTBE	Analysis Requested: TO-15 - TPH-G, BTEX, MTBE
7-10-14	1420	-1	GW-INF	4	W	HCL	X	
7-10-14	1430	-2	SVE-INF LOWER	1	G	—		X

Laboratory: BC LABS

Purchase Order #

Turnaround Time: (S) = Standard
1 day 2 day 3 day 5 day

Email Lab Report (.pdf): ☒ Yes ☐ No
Email EDF Lab Report (.zip): ☐ Yes ☐ No
Mail Lab Report: ☐ Yes ☐ No

Special Instructions / Remarks

CHK BY DISTRIBUTION
SUB OUT

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	7-11-14	0950
Received / Relinquished by:	Ross Dickey	BCLAB	7-11-14	0950
Received / Relinquished by:	Ross Dickey	BCLAB	7-11-14	1500

Please return cooler / ice chest to Ground Zero Analysis, Inc. REC. [illegible] 7-11-14 15:00 REL [illegible] 7-11-14 1500 Rec: [illegible] Rev. 3/2014 7/4/14 1800

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1415634 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 17 06/05/14 Page 1 Of 2

Submission #: 14-15634

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐ BC Lab Field Service ☒ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☒ Comments;

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: VOa Thermometer ID: 207 Date/Time 7/11/14 1800

Temperature: (A) 5.9 °C / (C) 6.2 °C Analyst Init: MV

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A ( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: MV Date/Time: 7/11/14 1830 (S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC16

Chain of Custody and Cooler Receipt Form for 1415634 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 17 06/05/14 Page 2 Of 2

Submission #: 14-15634

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Federal Express ☐ UPS ☐ Hand Delivery ☐	Ice Chest ☐ None ☐ Box ☒	YES ☐ NO ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____	Other ☐ (Specify)_____	

Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: ____ Container: Tedlar Thermometer ID: ____ Temperature: (A) Room Temp °C / (C) °C

Date/Time 7/11/14 1840 Analyst Init MVI

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/808f										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
~~PLASTIC BAG~~ Tedlar Bag		A								
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: MVI Date/Time: 7/11/14@1850 [S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC16

A = Actual / C = Corrected

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1415634-01	**COC Number:**	---	**Receive Date:**	07/11/2014 18:00
	Project Number:	Sullins	**Sampling Date:**	07/10/2014 14:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-INF	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): GW-INF			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1415634-02	**COC Number:**	---	**Receive Date:**	07/11/2014 18:00
	Project Number:	Sullins	**Sampling Date:**	07/10/2014 14:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF Lower	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Vapor or Air
	Delivery Work Order:			
	Global ID: T0600100116			
	Location ID (FieldPoint): SVE-INF Lower			
	Matrix: GS			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1415634-01 | **Client Sample Name:** Sullins, GW-INF, 7/10/2014 2:20:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**96**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**34**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-8260B	ND		1
Toluene	**17**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**170**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**130**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**40**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**2000**	**ug/L**	**100**	**14**	**Luft-GC/MS**	ND	**A01**	2
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	107	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.9	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	07/14/14	07/14/14 18:20	JCC	MS-V14	1	BXG1162
2	EPA-8260B	07/14/14	07/15/14 14:35	JCC	MS-V14	2	BXG1162

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1415634-02 | **Client Sample Name:** Sullins, SVE-INF Lower, 7/10/2014 2:30:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**75000**	**ug/m3**	**2000**	**220**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	500	200	EPA-TO-15	ND	A01	2
Ethylbenzene	**11000**	**ug/m3**	**500**	**23**	**EPA-TO-15**	ND	**A01**	2
Methyl t-butyl ether	ND	ug/m3	200	42	EPA-TO-15	ND	A01	2
Toluene	**8500**	**ug/m3**	**2000**	**200**	**EPA-TO-15**	ND	**A01**	1
p- & m-Xylenes	**25000**	**ug/m3**	**500**	**49**	**EPA-TO-15**	ND	**A01**	2
o-Xylene	**6100**	**ug/m3**	**500**	**31**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**31000**	**ug/m3**	**1000**	**80**	**EPA-TO-15**	ND	**A01**	2
Total Petroleum Hydrocarbons	**170000**	**ug/m3**	**20000**	**3900**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	101	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	126	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	07/14/14	07/14/14 18:29	MJB	MS-A1	1000	BXG1068
2	EPA-TO-15	07/14/14	07/14/14 12:58	MJB	MS-A1	100	BXG1068

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXG1162						
Benzene	BXG1162-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXG1162-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXG1162-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXG1162-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXG1162-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXG1162-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXG1162-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXG1162-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXG1162-BLK1**	**111**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXG1162-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXG1162-BLK1**	**91.4**	%	**80 - 120 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXG1162										
Benzene	BXG1162-BS1	LCS	24.727	25.000	ug/L	98.9		70 - 130		
Toluene	BXG1162-BS1	LCS	23.096	25.000	ug/L	92.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXG1162-BS1	LCS	10.250	10.000	ug/L	102		75 - 125		
Toluene-d8 (Surrogate)	BXG1162-BS1	LCS	10.100	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXG1162-BS1	LCS	9.8900	10.000	ug/L	98.9		80 - 120		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BXG1162	Used client sample: Y - Description: GW-INF, 07/10/2014 14:20										
Benzene	MS	**1415634-01**	**96.220**	**101.71**	**25.000**	**ug/L**		**22.0**		**70 - 130**	**Q03**
	MSD	**1415634-01**	**96.220**	**111.89**	**25.000**	**ug/L**	**9.5**	**62.7**	**20**	**70 - 130**	**Q03**
Toluene	MS	1415634-01	16.935	36.098	25.000	ug/L		76.7		70 - 130	
	MSD	1415634-01	16.935	37.934	25.000	ug/L	5.0	84.0	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1415634-01	ND	10.930	10.000	ug/L		109		75 - 125	
	MSD	1415634-01	ND	10.580	10.000	ug/L	3.3	106		75 - 125	
Toluene-d8 (Surrogate)	MS	1415634-01	ND	10.630	10.000	ug/L		106		80 - 120	
	MSD	1415634-01	ND	10.580	10.000	ug/L	0.5	106		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1415634-01	ND	10.340	10.000	ug/L		103		80 - 120	
	MSD	1415634-01	ND	10.390	10.000	ug/L	0.5	104		80 - 120	

Ground Zero Analysis, Inc.
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Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXG1068						
Benzene	BXG1068-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXG1068-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXG1068-BLK1	ND	ug/m3	5.0	0.23	
Methyl t-butyl ether	BXG1068-BLK1	ND	ug/m3	2.0	0.42	
Toluene	BXG1068-BLK1	ND	ug/m3	2.0	0.20	
p- & m-Xylenes	BXG1068-BLK1	ND	ug/m3	5.0	0.49	
o-Xylene	BXG1068-BLK1	ND	ug/m3	5.0	0.31	
Total Xylenes	BXG1068-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXG1068-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXG1068-BLK1**	**104**	%	**70 - 130 (LCL - UCL)**		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BXG1068										
Benzene	BXG1068-BS1	LCS	12.744	15.974	ug/m3	79.8		70 - 130		
	BXG1068-BSD1	LCSD	12.910	15.974	ug/m3	80.8	1.3	70 - 130	30	
1,1-Difluoroethane	BXG1068-BS1	LCS	ND		ug/m3			70 - 130		
	BXG1068-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	BXG1068-BS1	LCS	21.832	21.711	ug/m3	101		70 - 130		
	BXG1068-BSD1	LCSD	21.811	21.711	ug/m3	100	0.1	70 - 130	30	
Methyl t-butyl ether	BXG1068-BS1	LCS	16.797	18.026	ug/m3	93.2		70 - 130		
	BXG1068-BSD1	LCSD	16.779	18.026	ug/m3	93.1	0.1	70 - 130	30	
Toluene	BXG1068-BS1	LCS	18.465	18.842	ug/m3	98.0		70 - 130		
	BXG1068-BSD1	LCSD	18.454	18.842	ug/m3	97.9	0.1	70 - 130	30	
p- & m-Xylenes	BXG1068-BS1	LCS	52.865	43.421	ug/m3	122		70 - 130		
	BXG1068-BSD1	LCSD	52.436	43.421	ug/m3	121	0.8	70 - 130	30	
o-Xylene	BXG1068-BS1	LCS	25.827	21.711	ug/m3	119		70 - 130		
	BXG1068-BSD1	LCSD	25.862	21.711	ug/m3	119	0.1	70 - 130	30	
Total Xylenes	BXG1068-BS1	LCS	78.692	65.132	ug/m3	121		70 - 130		
	BXG1068-BSD1	LCSD	78.297	65.132	ug/m3	120	0.5	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BXG1068-BS1	LCS	71.6	71.6	ug/m3	100		70 - 130		
	BXG1068-BSD1	LCSD	72.5	71.6	ug/m3	101	1.2	70 - 130		

Ground Zero Analysis, Inc.
1172 Kansas Avenue
Modesto, CA 95354

Reported: 07/17/2014 17:52
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.
Q03	Matrix spike recovery(s) is(are) not within the control limits.

Appendix C

Groundwater Monitoring Field Notes

Ground Zero Analysis, In Groundwater Monitoring Field Log

Project Name: Sullins (L St)
Well I.D.: W-A
Project No.: 1262.2
Date: 6/17/2014
Project Location: 187 N. L Street
Livermore, CA
Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:08	0	20.93	1359	6.71	-133.0	0.44	Black
11:19	6.00	20.69	1352	6.42	-135.0	0.17	Black
11:38	10.00						Dry
12:15							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other
Pumping Rate: 1.00 gal/min

Well Constructed TD (ft):	63.00
* Well TD (ft):	53.08
Silt Thickness (ft):	9.92
Initial DTW (ft):	44.07
Water column height (ft):	9.01
One casing volume (gal):	5.86
** Final DTW (ft):	44.31
Casing diameter (in):	4"

Sample Containers used: 6 # VOAs X preserved ____ non-preserved
____ # amber liters ____ preserved ____ non-preserved
____ # polys ____ ____ preserved ____ non-preserved
____ # polys ____ ____ preserved ____ non-preserved

Notes:
Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No
No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Well I.D.: W-Bs

Project No.: 1262.2

Date: 6/17/2014

Project Location: 187 N. L Street

Livermore, CA

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:07	0.0	21.01	803	7.05	-50.1	1.64	Light gray
	3.0						Dry - too little water to pump
11:30							Collected Sample

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	44.62
Silt Thickness (ft):	0.38
Initial DTW (ft):	42.39
Water column height (ft):	2.23
One casing volume (gal):	3.31
** Final DTW (ft):	42.39
Casing diameter (in):	6"

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, In Groundwater Monitoring Field Log

Project Name: Sullins (L St)
Well I.D.: W-Es
Project No.: 1262.2
Date: 6/17/2014
Project Location: 187 N. L Street
Livermore, CA
Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:30							Dry - could not collect sample

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____
Pumping Rate: _____ gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	44.17
Silt Thickness (ft):	0.83
Initial DTW (ft):	43.45
Water column height (ft):	0.72
One casing volume (gal):	0.12
** Final DTW (ft):	
Casing diameter (in):	2"

Sample Containers used: 6 # VOAs X preserved ____ non-preserved
_____ # amber liters _____ preserved ____ non-preserved
_____ # polys _____ _____ preserved ____ non-preserved
_____ # polys _____ _____ preserved ____ non-preserved

Notes: Purged approx 0.25 gallons and well went dry

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No
No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: W-1

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
12:39	0	21.25	1316	6.75	-135.7	0.44	Black, strong odor, very few sediments
12:44	1.75	21.08	1108	6.70	-104.6	0.22	Black, strong odor, very few sediments
12:48	3.50	21.06	1099	6.69	-102.0	0.20	Black, strong odor, very few sediments
12:53	5.25	21.06	1097	6.70	-101.3	0.18	Black, strong odor, very few sediments
13:30							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other _____

Pumping Rate: 0.38 gal/min

Well Constructed TD (ft):	56.50
* Well TD (ft):	54.13
Silt Thickness (ft):	2.37
Initial DTW (ft):	44.06
Water column height (ft):	10.07
One casing volume (gal):	1.72
** Final DTW (ft):	44.06
Casing diameter (in):	2"

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Well I.D.: W-1s

Project No.: 1262.2

Date: 6/17/2014

Project Location: 187 N. L Street
Livermore, CA

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:30	0	21.25	1309	6.47	-79.0	0.31	Black
	5.0						Dry - water level too low to pump
11:55							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	44.53
Silt Thickness (ft):	0.47
Initial DTW (ft):	40.67
Water column height (ft):	3.86
One casing volume (gal):	5.71
** Final DTW (ft):	42.35
Casing diameter (in):	6"

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved _____ non-preserved

_____ # polys _____ _____ preserved _____ non-preserved

_____ # polys _____ _____ preserved _____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ❑ Bailer ☒ Other ❑

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street
Livermore, CA

Well I.D.: W-3s

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	43.88
Silt Thickness (ft):	1.12
Initial DTW (ft):	43.23
Water column height (ft):	0.60
One casing volume (gal):	0.43
** Final DTW (ft):	
Casing diameter (in):	4"

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: Too short of water column to sample

Sampled By: A. Dorn

Sample Method: Waterra ❑ Bailer ☒ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-104

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:45	0.00						Brown, strong odor, no sediments
13:53	0.5						Brown, strong odor, no sediments
13:55							Collected Sample

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.06 gal/min

Well Constructed TD (ft):	50.50
* Well TD (ft):	
Silt Thickness (ft):	50.50
Initial DTW (ft):	43.69
Water column height (ft):	6.81
One casing volume (gal):	0.08
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums: _____

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Well I.D.: MW-204

Project No.: 1262.2

Date: 6/17/2014

Project Location: 187 N. L Street

Livermore, CA

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:33	0.0						Greenish gray, strong odor, no sediments
13:42	0.75						Greenish gray, strong odor, no sediments
13:45							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.08 gal/min

Well Constructed TD (ft):	66.50
* Well TD (ft):	
Silt Thickness (ft):	66.50
Initial DTW (ft):	44.22
Water column height (ft):	22.28
One casing volume (gal):	0.24
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # VOAs _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-205

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
12:25	0.00						Light brown, mild odor, very few sediments
12:35	0.25						Light brown, mild odor, very few sediments
12:50							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.03 gal/min

Well Constructed TD (ft):	48.00
* Well TD (ft):	
Silt Thickness (ft):	48.00
Initial DTW (ft):	43.42
Water column height (ft):	4.58
One casing volume (gal):	0.05
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-206

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:10	0.00						Began purge - clearish black, septic odor, no sediments
10:22	0.5						Finished purge - clearish black, septic odor, no sediments
10:30							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other _____

Pumping Rate: 0.04 gal/min

Well Constructed TD (ft):	50.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	44.15
Water column height (ft):	5.85
One casing volume (gal):	0.07
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved _____ non-preserved

_____ # polys _____ _____ preserved _____ non-preserved

_____ # polys _____ _____ preserved _____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ☐ Yes ☒ No

No. of Drums:

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-207

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:40	0.00						Milky brown, mild odor, no sediments
12:00	0.25						Milky brown, mild odor, no sediments
12:05							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.01 gal/min

Well Constructed TD (ft):	50.00
* Well TD (ft):	
Silt Thickness (ft):	50.00
Initial DTW (ft):	44.99
Water column height (ft):	5.01
One casing volume (gal):	0.06
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-208

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:35	0.00						Clearish black, strong odor, no sediments
10:51	0.25						Clearish black, strong odor, no sediments
11:10							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.02 gal/min

Well Constructed TD (ft):	52.00
* Well TD (ft):	
Silt Thickness (ft):	52.00
Initial DTW (ft):	48.86
Water column height (ft):	3.14
One casing volume (gal):	0.04
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-304

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:00	0.0						Light brown, mild odor, no sediments
13:30	1.25						Light brown, mild odor, no sediments
13:35							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.04 gal/min

Well Constructed TD (ft):	75.50
* Well TD (ft):	
Silt Thickness (ft):	75.50
Initial DTW (ft):	44.33
Water column height (ft):	31.17
One casing volume (gal):	0.35
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-305

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
12:25	0.0						Clearish brown, mild odor, no sediments
12:40	0.75						Clearish brown, mild odor, no sediments
12:45							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.05 gal/min

Well Constructed TD (ft):	66.00
* Well TD (ft):	
Silt Thickness (ft):	66.00
Initial DTW (ft):	44.23
Water column height (ft):	21.77
One casing volume (gal):	0.24
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes:

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-306

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	66.00
* Well TD (ft):	66.69
Silt Thickness (ft):	
Initial DTW (ft):	44.22
Water column height (ft):	21.78
One casing volume (gal):	0.23
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: Could not sample - well needs new tubing

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Well I.D.: MW-307

Project No.: 1262.2

Date: 6/17/2014

Project Location: 187 N. L Street

Livermore, CA

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:40	0						Brown, mild odor, no sediments
12:10	0.75						Clearish brown, mild odor, no sediments
12:15							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other _____

Pumping Rate: 0.03 gal/min

Well Constructed TD (ft):	66.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	44.80
Water column height (ft):	21.20
One casing volume (gal):	0.23
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Purged Water Drummed: ☐ Yes ☒ No

No. of Drums:

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Project No.: 1262.2

Project Location: 187 N. L Street

Livermore, CA

Well I.D.: MW-308

Date: 6/17/2014

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:35	0.0						Black, strong odor, no sediments
11:05	0.75						Black, strong odor, no sediments
11:10							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other _____

Pumping Rate: 0.03 gal/min

Well Constructed TD (ft):	66.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	44.54
Water column height (ft):	21.46
One casing volume (gal):	0.24
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: _____

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Ground Zero Analysis, Inc.

Groundwater Monitoring Field Log

Project Name: Sullins (L St)

Well I.D.: MW-404

Project No.: 1262.2

Date: 6/17/2014

Project Location: 187 N. L Street

Livermore, CA

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:00	0.0						Light brown, mild odor, no sediments
13:23	1.5						Light brown, mild odor, no sediments
13:25							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other _____

Pumping Rate: 0.07 gal/min

Well Constructed TD (ft):	81.50
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	44.44
Water column height (ft):	37.06
One casing volume (gal):	0.41
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: 6 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes:

Sampled By: A. Dorn

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☒ No

No. of Drums:

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Appendix D

Vertical Groundwater Gradient Calculation Procedure

Appendix D: Vertical Groundwater Gradient Calculation Procedure

The following procedure is used to calculate vertical groundwater gradients in wells with submerged screens:

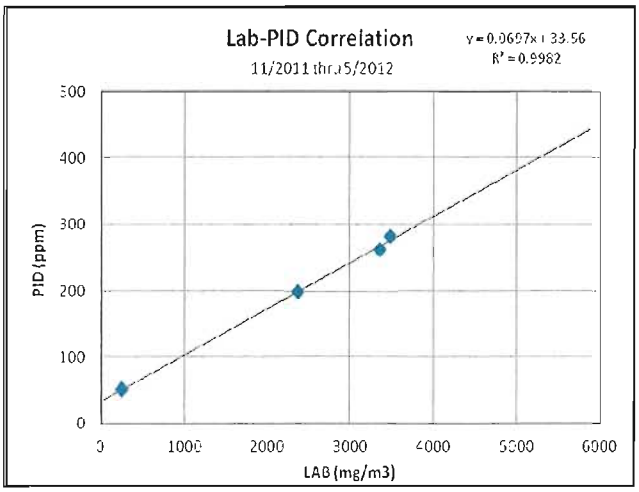
- Determine the vertical distance between the two measuring devices (wells) by calculating the distance between the mid-point between the screen top and bottom in the deep well (MW-305) and the mid-point between the screen top and bottom in the shallower well (MW-205).
- Measure the head in both wells used in the calculations.
- If the lateral distance between the well pair is greater than a few feet, then calculations must be made to correct the down-gradient piezometric head to account for the sloping water table between the wells. This is not necessary in this case because the wells are adjacent to each other in the CMT™ well sets.
- Divide the difference in head by the difference in vertical distance in the measuring devices to obtain the vertical gradient.

Appendix E

Dual Phase Extraction System Data Correlation

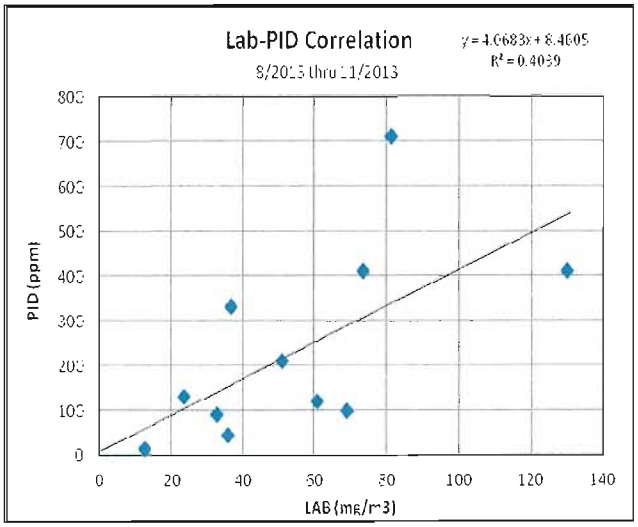
Appendix E: Dual Phase Extraction System Data Correlation

From November 2011 thru July 2013, mass removal calculations were completed utilizing the results of bi-monthly PID analyses and their correlation with four (4) laboratory analyses results of the system influent and effluent vapor streams. A PID reading was collected directly from each of the sample bags for the purpose of correlation. The soil vapor mass removal volume was calculated using laboratory analytical results when available and correlated PID readings when laboratory data was not available. The soil vapor mass removal calculations are provided in Table 7. In the "Lab" column of the table, bold values represent laboratory analytical results, while the remaining values are correlated data.



DATE	Lab Results	PID
	TPH-G (mg/m^3)	(ppm)
12/8/2011	2380.0	200
1/5/2012	3360.0	262
3/8/2012	3490.0	282
5/16/2012	251.0	51.1

Starting in August 2013, mass removal calculations were completed utilizing the results of bi-monthly PID analyses and their correlation with eleven (11) laboratory analyses results of the system influent vapor streams, shown in the table below. A PID reading was collected directly from each of the sample bags for the purpose of correlation.



DATE		Lab Results	PID
		TPH-G (mg/m^3)	(ppm)
8/22/2013*	SVE-INF UPPER	**13**	12.5
9/3/2013		**130**	23.8
9/20/2013*		**330**	36.9
10/11/2013		**91**	32.9
10/22/2013*		**210**	51.1
11/6/2013		**44**	35.9
8/22/2013	SVE-INF LOWER	**410**	73.6
9/3/2013*		**710**	81.4
9/20/2013		-	-
10/11/2013*		**99**	69.1
10/22/2013		**410**	130
11/6/2013*		**120**	60.9