RECEIVED
By Alameda County Environmental Health at 11:48 am, Feb 07, 2014

January 30, 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 2nd 2013 Semi-Annual Groundwater Monitoring, dated January 30, 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

2nd Semi-Annual Groundwater Monitoring & Remedial Effectiveness (Performed in 4th Quarter: December 2013)

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

Project No. 1262.2
January 30, 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

January 30, 2014

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

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

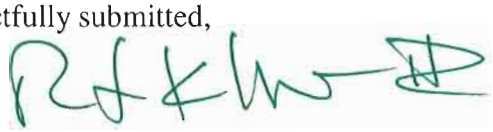
RE: Report: 2nd Semi-Annual Groundwater Monitoring & Remedial Effectiveness Performed 4th Quarter, December 2013
Location: 187 North L Street, Livermore, CA 94550.
(ACEH Fuel Leak Case No. RO0000394)

Dear Mr. & Ms. Sullins:

Ground Zero Analysis, Inc. has prepared the following Report for the 2nd Semi-Annual 2013 groundwater monitoring event performed between December 3rd and December 5th, 2013, at the 187 North L Street property in Livermore, CA. In addition, the remedial activities performed during the 3rd and 4th Quarters of 2013 will be discussed. An elevated core of gasoline contamination persists in the location of and down-gradient (northwest) of the former USTs/piping. GZA has implemented 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
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REPORT

2nd Semi-Annual Groundwater Monitoring & Remedial Effectiveness

Arrow Rentals Services
187 North L St.
Livermore, CA

Project No. 1262.2
January 30, 2014

1.0 EXECUTIVE SUMMARY

This report summarizes the results of the 2nd Semi-Annual 2013 groundwater monitoring and sampling event that took place between December 3rd and December 5th, 2013 with additional sampling occurring on December 12th, 2013. In addition, the remedial activities performed during the 3rd and 4th Quarters of 2013 will be included in this report.

The average shallow groundwater elevation at the site was 444.83 feet above mean sea level (msl) and the average depth to water was 35.36 feet below ground surface (bgs). This represents increase of 1.53 feet since the June 2013 monitoring event and an increase of 5.68 feet since the November 2012 monitoring event. The shallow groundwater flow was southwest (S54˚W) at a slope of 0.0192 ft/ft for this event.

The analytical results of groundwater samples show that detectable concentrations of gasoline range petroleum hydrocarbons were present in all sixteen 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).

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 December 31st, 2013, the DPE system has removed a total of approximately 11,050.7 pounds, or 1,796.9 gallons, of gasoline hydrocarbons as TPH-G since operation began on November 15th, 2011. During the 3rd and 4th Quarters of 2013, the DPE system operated for 3,239 hours and removed a total of approximately 483.5 pounds or 78.6 gallons of gasoline hydrocarbons as TPH-G, which is an average of 3.6 pounds or approximately 0.6 gallons per day.

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 that opportunity be taken at its soonest event.
3. Continue implementation of the Corrective Action Plan (CAP) and operating the Dual Phase Extraction (DPE) and air sparging systems, as the initial operation has been effective at treating the sites groundwater and soil contamination. It is recommended that the DPE system operate in a pulse mode, as discussed in Section 4.3 of this report.

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 444.83 feet above mean sea level (amsl) on December 3rd, 2013. This corresponds to 35.36 feet below grade surface (bgs) and represents an increase of 1.53 feet since the June 2013 monitoring event and an increase of 5.68 feet since the November 2012 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 December 2013 monitoring event are as follows:

Aquifer Zone:	Gradient:	Bearing:
Water table	0.0192	S54°W
Intermediate	0.0130	N32°W
Deep	0.0100	S75°W

Figures 5A illustrates the shallow aquifer groundwater gradient map for the December 2013 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 December 2013 monitoring event, which are as follows:

- The MW-204/304 pair was negative (or downward) at -0.013 ft/ft.
- The MW-205/305 pair was negative (or downward) at -0.007 ft/ft.
- The MW-206/306 pair was negative (or downward) at -0.004 ft/ft.
- The MW-207/307 pair was positive (or upward) at 0.039 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 December 3rd and December 5th, 2013 and on December 12th, 2013, 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 December 2013 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 December 2013 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 (select wells)

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 2nd Semiannual 2013 was submitted to GeoTracker on January 30, 2014 – confirmation number 5477303683. Laboratory data was submitted to GeoTracker on January 30, 2014 – confirmation numbers 5400483608 & 2939969897.

3.0 FINDINGS AND DISCUSSION

3.1 Field Parameters

For the December 2013 event:

- Dissolved Oxygen (DO) ranged from 0.16 (W-1) to 1.27 (W-3s). All wells, with the exception of W-1 and W-A, reported an increase in DO levels for the December 2013 event.
- Electrical Conductivity (EC) ranged from 810 (W-Bs) to 1,210 (W-A).
- Oxygen Reduction Potential (ORP) ranged from -135.6 (W-1) to 72.8 (W-3s).
- pH ranged from 6.57 (W-3s) to 7.03 (W-A).
- Temperature ranged from 18.4 °C (W-3s) to 20.5 °C (W-1).

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 and June 2013 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.

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

Despite the increase in groundwater levels, the shallow wells less than 40 feet below grade surface were not sampled during the December 2013 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 December 2013 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-Bs reported the highest concentrations of TPH-g (1,600 µg/l) and shallow monitoring well W-1s reported the highest concentration of benzene (140 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 appears to be moving down-gradient over time, as suggested by the increasing concentrations in MW-107, which has been dry during the previous four (4) groundwater monitoring events. Concentrations in 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-3s reported a decrease in TPH-G concentrations for the December 2013 groundwater monitoring event. Well W-1s reported a decrease in benzene concentrations.
- Monitoring wells W-Bs reported an increase in TPH-G, while monitoring wells W-Bs and W-3s reported an increase in benzene concentrations for the December 2013 groundwater monitoring event.
- Figure 6 shows a contour map indicating GZA's interpretation of the shallow TPH-g plume in December 2013.

Intermediate Aquifer:

- Well W-1 reported the highest concentrations of TPH-g (15,000 µg/l) and well MW-205 reported the highest concentration of benzene (7,200 µg/l) in the intermediate aquifer. Contaminant concentrations in W-1 appear to be on an overall decreasing trend while concentrations in well MW-205 appear to be stabilizing, with wide variations between sampling events.
- 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 December 2013, 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 a decrease in contaminant concentrations for the December 2013 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 be stabilizing, while down gradient well MW-208 appear 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 (3,200 µg/l) and CMT™ monitoring well MW-305 reported the highest concentrations of benzene (1,200 µg/l) in the deep aquifer. Contaminant concentrations in MW-308 and MW-305 appear to be fluctuating but stable. However, the data is incomplete and further groundwater monitoring events will allow for a better evaluation of seasonal fluctuations.
- Deep well MW-204 located in the core of the plume reported a decrease in both TPH-g and benzene during the December 2013 groundwater monitoring event.
- The remaining deep wells reported a decrease in both TPH-G and benzene for the December 2013 event, with the exception of MW-308, which reported a slight increase in benzene. Well MW-306 reported TPH-G concentrations below laboratory reporting limits and well MW-307 was not sampled during the December 2013 event.
- Concentrations reported in the deep wells during the December 2013 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 December 2013. 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 decrease in all constituents analyzed for the December 2013 monitoring event.
- CMT™ well MW-404 reported an increase in all constituents analyzed for the December 2013 monitoring event except for benzene.

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 December 2013 monitoring event represents a 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. The December 2013 monitoring event represents a historical low concentration of TPH-g and a near historical low concentration of benzene in this well.
- 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 December 2013 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 (December 2013 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).

Upper Unit

- Decreasing contaminant trends noted in all of the Site's shallow wells (W-1s, W-Bs and W-3s) that are routinely sampled suggests remediation of the Upper Unit is occurring within the core of the groundwater plume.
- Due to near historical low groundwater elevations, groundwater samples have not been collected from the shallow groundwater wells within the Upper Unit (MW-4, MW-5/105, MW-6/106, MW-7/107 & MW-8/108) since remediation began. As groundwater elevations increase, contaminant reduction within the Upper Unit can be better assessed.

Lower Unit

- Decreasing contaminant trends in intermediate wells W-A, W-1, MW-104 and MW-204 suggest remediation of the Lower Unit is occurring within the core of the groundwater plume.

- Slightly decreasing contaminant trends are noted in intermediate well MW-208, suggesting remediation is occurring in the edges of the contaminant core in the down gradient direction.
- Stable but fluctuating contaminant trends are noted in intermediate wells MW-205 and MW-207, suggesting remediation may not be occurring in the side and up-gradient edges of the contaminant core. Additional sampling is needed to confirm this.

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. Upon the start-up of groundwater extraction, various repairs and modifications were made to the air stripper and were completed on December 19th, 2012. In anticipation for the City of Livermore groundwater discharge permit inspection, operational testing and sampling of the air stripper system were completed. 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, further air stripper operational testing and modifications were made. On January 18th, 2012, the DPE system began full operation and extraction and treatment of both groundwater and soil vapor.

Due to decreasing contaminant concentrations in the vapor phase and decreasing funds, the DPE system was shut down in order to install a catalytic cell to the DPE system and switch from thermal to catalytic oxidizer mode. This reduced the propane use of the system by over 60%. Upon completion of the system modifications and the further allocation of funds, the DPE system was restarted in full operation on February 23rd, 2012.

Between March 19th and March 21st, 2012, an air sparging system was installed into intermediate well W-A. The air sparge line was plumbed into the existing W-A remediation line and valves were installed to allow either air injection or dual phase extraction. On July 31st, 2013, an air sparging system was installed into intermediate well W-1. The air sparge line was plumbed into the existing W-1 remediation line and valves were installed to allow

either air injection or dual phase extraction. Equipment was installed to automatically switch injection between wells W-1 and W-A every 30 minutes.

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 November 22nd, 2013 in anticipation of the 4th Quarter 2013 groundwater monitoring event that was performed between December 3rd and December 5th, 2013.

3rd and 4th Quarters 2013

The DPE system operated throughout the 3rd and 4th Quarters of 2013 except for the following reasons:

- September 20, 2013 thru September 27, 2013 – system shut down on September 20 due to an empty propane tank. The system was restarted on September 27.
- November 22, 2013 – shut system down for 4th Quarter 2013 groundwater monitoring event. The DPE system was restarted on December 5, 2013 following the 4th Quarter 2013 groundwater monitoring event.
- December 6, 2013 thru January 2, 2014 – system was shut down due to modifications being made to the propane regulation system and routine maintenance.

As discussed in the 1st Semi-Annual 2012 Groundwater Monitoring & Remedial Effectiveness report, during the first seven (7) months of DPE operation (November 2011 thru June 2012), wells W-1s and W-1 were focused on for extraction due to historically low groundwater levels exposing the upper gravely unit (surface to 35-45 feet bgs) that is expected to contain a majority of the contaminant mass. Due to lower concentrations being extracted from vadose zone well EW-1, this well was remediated less frequently. Extensive remediation of the upper gravely layer was accomplished as demonstrated by decreasing contaminant concentrations in well W-1s and a decline in contaminant concentrations of the DPE vapor stream when extracting from shallow wells W-1s and EW-1.

Based on recent groundwater monitoring data in the intermediate CMT well intervals (MW-205, 206, 207 and 208) and previous work, it is suspected there is a significant mass of contaminants residing in the lower clay layer (35/45 to 65 feet bgs). In order to address the entire extent of the groundwater and soil contamination, GZA began pulsing the system by rotating which wells are being extracted from on a bi-monthly basis during the 3rd and 4th Quarters of 2012. Wells W-A and W-1 were used to focus on the lower clay layer, while wells W-1s and EW-1 were used to focus on the upper gravelly layer. The air sparging system continued to operate in well W-A while it was not being extracted from.

Starting in the 1st Quarter 2013 and during the 3rd and 4th Quarters of 2013, 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 4th Quarter 2013, the DPE system has removed a total of approximately 11,050 pounds, or 1,797 gallons, of gasoline hydrocarbons as TPH-G. During the 3rd and 4th Quarters of 2013, the DPE system operated for 3,239 hours and removed a total of approximately 483.5 pounds or 78.6 gallons of gasoline hydrocarbons as TPH-G.

Soil Vapor Extraction Mass Removal

As of the end of the 4th Quarter 2013, the DPE system has removed approximately 10,941 pounds, or 1,779 gallons of soil-vapor gasoline hydrocarbons as TPH-G since operation began on November 15th, 2011. Since the start of the 3rd Quarter 2013, the DPE system removed approximately 437 pounds, or 71.1 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 4th Quarter 2013, the DPE system had removed approximately 109.5 pounds, or 17.8 gallons, of gasoline hydrocarbons as TPH-G from groundwater extraction. Since the start of the 3rd Quarter 2013, the DPE system removed approximately 46.3 pounds, or 7.5 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 1st and 2nd 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 vapor extraction wells W-1s and EW-1 while the air sparging system operates in wells W-1 and W-A.

Following the 2nd Quarter 2014 groundwater monitoring event, the need to continue operating the remediation systems will be assessed.

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, which all reported a decrease in contaminant concentrations for the December 2013 event.
5. Concentrations in intermediate wells MW-205 and MW-207 appear to be stabilizing, while down gradient well MW-208 appears to be decreasing over time, suggesting the intermediate plume has stabilized. Wells MW-205 and MW-207 may be outside of the zone of influence of the DPE system, however additional data would be needed to confirm this.
6. Concentrations reported in the deep wells during the December 2013 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.
7. 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.
8. Overall the contaminant concentrations at the site are following a decreasing trend, as shown in the graphs included in this report.
9. 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 and June 2013 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. Continue implementation of the Corrective Action Plan (CAP) and operating the Dual Phase Extraction (DPE) and air sparging systems, as the initial operation has been effective at treating the sites groundwater and soil contamination. It is recommended that the DPE system operate in a pulse mode, as discussed in Section 4.3 of this report.

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
California Professional Geologist-in-Training (GIT #411)

This report was prepared under the direction of:

Raynold I. Kablanow II, PhD
PG and CHG

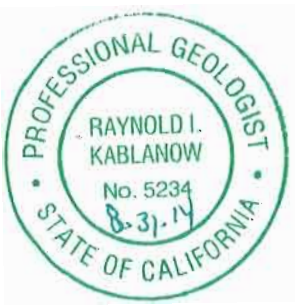
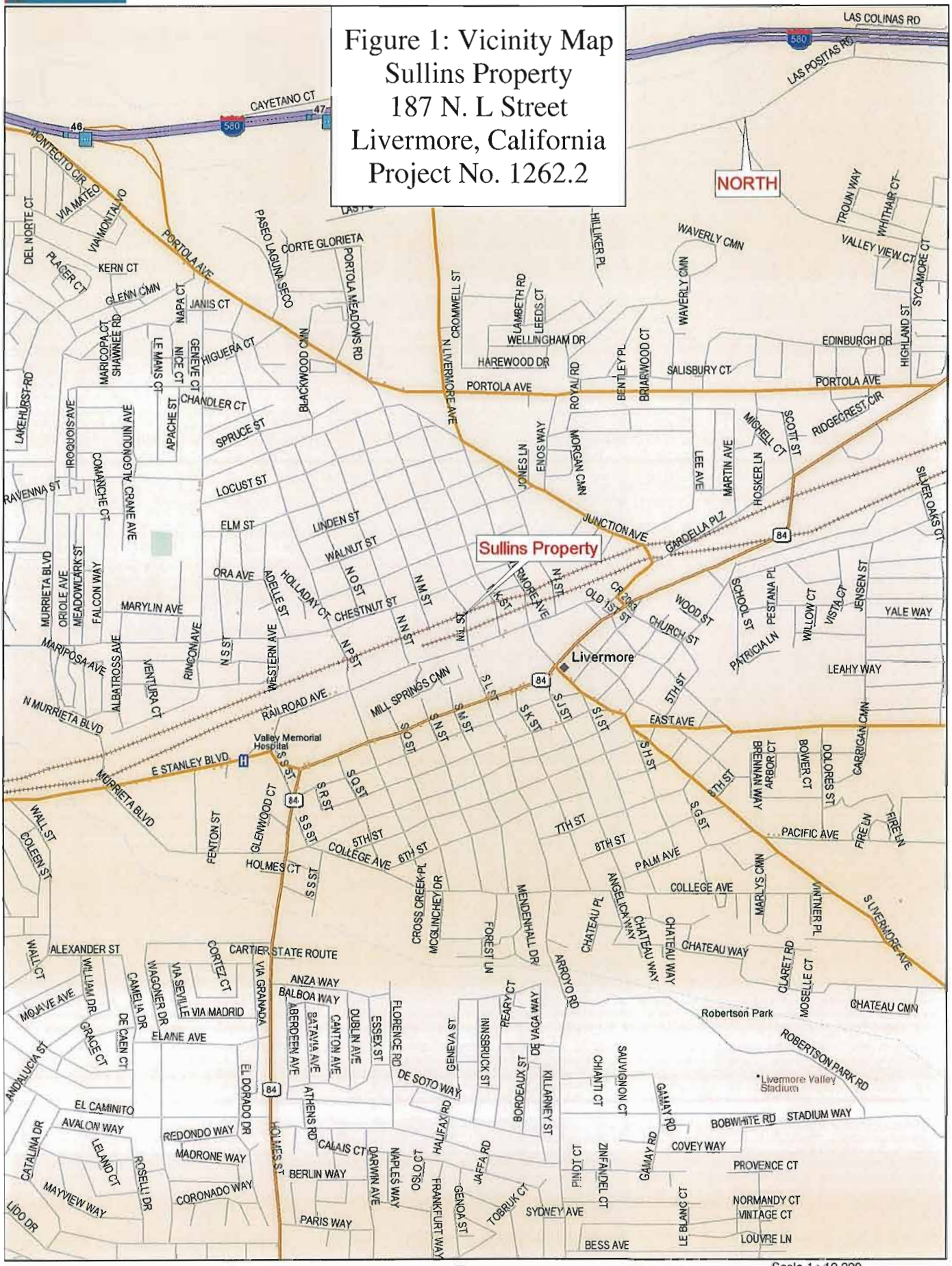


Figure 1: Vicinity Map
Sullins Property
187 N. L Street
Livermore, California
Project No. 1262.2



Data use subject to license.
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www.delorme.com

TN
MN (13.8°E)

Scale 1 : 19,200
1" = 1,600.0 ft
Data: Zoom 13-4

LEGEND

- MONITORING WELL
- EXTRACTION WELL

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

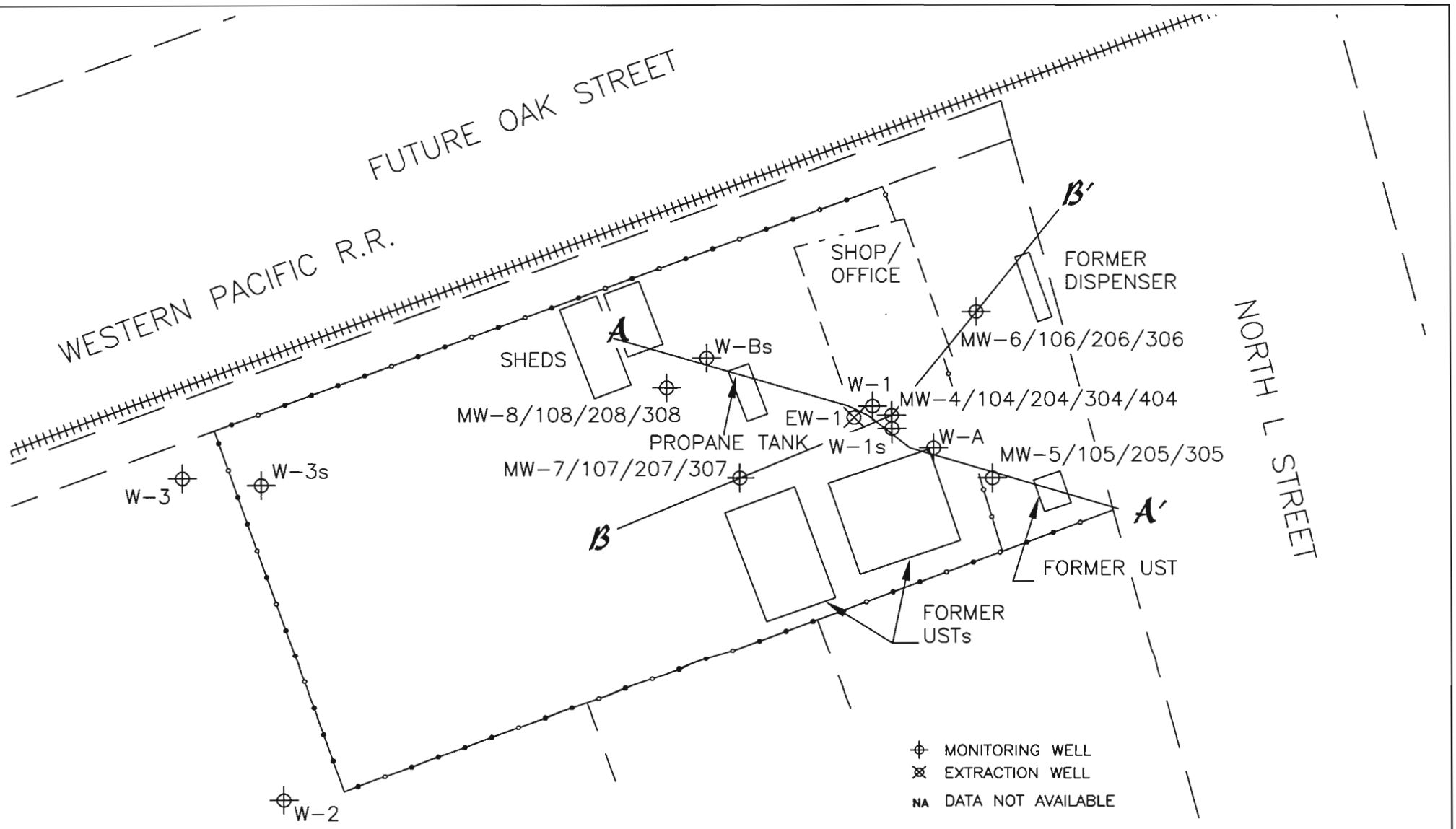
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

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:
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

N

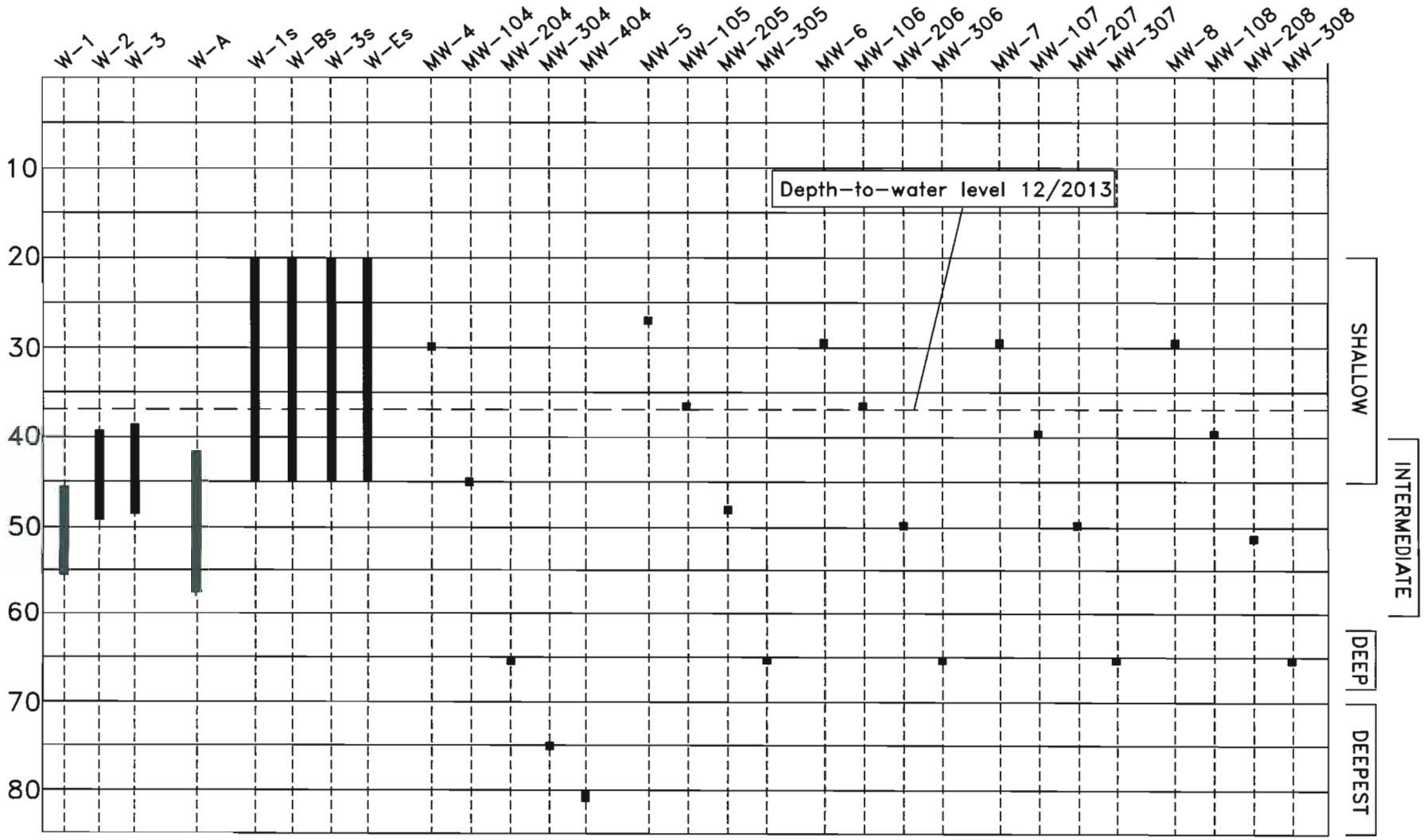
By:	AD
Job No: 1262.2	Date: 1-28-14
Scale:	1" = 50 feet
File: 12622 Graphics 1-03-14	

GROUND ZERO ANALYSIS, INC.

FIGURE 3: SITE DETAIL MAP

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA

Figure 4:
Well Screened
Interval Diagram



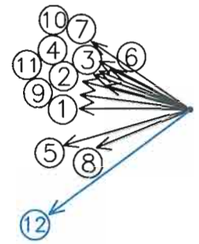
Sullins
187 North L Street
Livermore, CA

Ground Zero Analysis, Inc.

1/28/14

	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

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. 446.29'

CONTOUR INTERVAL = 1.0 FOOT

Groundwater Gradient:
S54°W @ 0.0192

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

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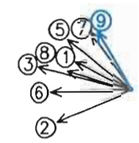
Job No:	1262.2 Date: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-3-13

GROUND ZERO ANALYSIS, INC.

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

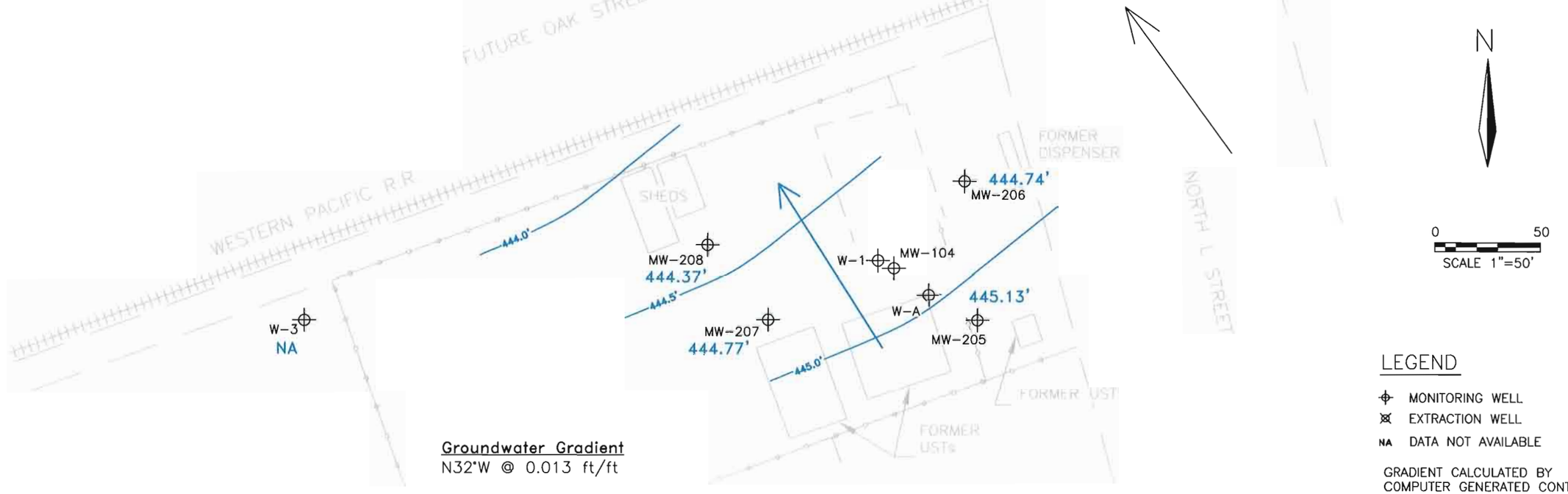
	DATE	BEARING	GRADIENT
1	10/16/06	N63°W	0.012
2	04/17/07	S68°W	0.022
3	12/19/07	N76°W	0.04
4	04/07/08	NORTHWEST	VARIABLE
5	10/25/11	N53°W	0.025
6	05/30/12	S89°W	0.020
7	11/19/12	N36°W	0.015
8	06/24/13	N73°W	0.014
9	12/03/13	N32°W	0.013

ROSE DIAGRAM



0.001 0.01 0.1 1

GROUNDWATER GRADIENT FT/FT



Groundwater Gradient
N32°W @ 0.013 ft/ft

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- NA DATA NOT AVAILABLE

GRADIENT CALCULATED BY COMPUTER GENERATED CONTOURS

GROUNDWATER ELEV. 445.13'

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

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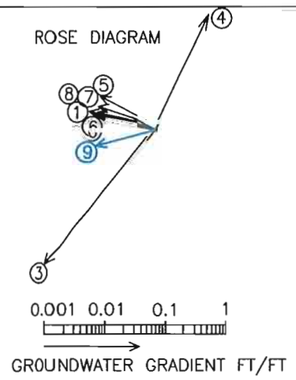
Scale:	1" = 50 feet
File:	12622 Graphics 12-3-13

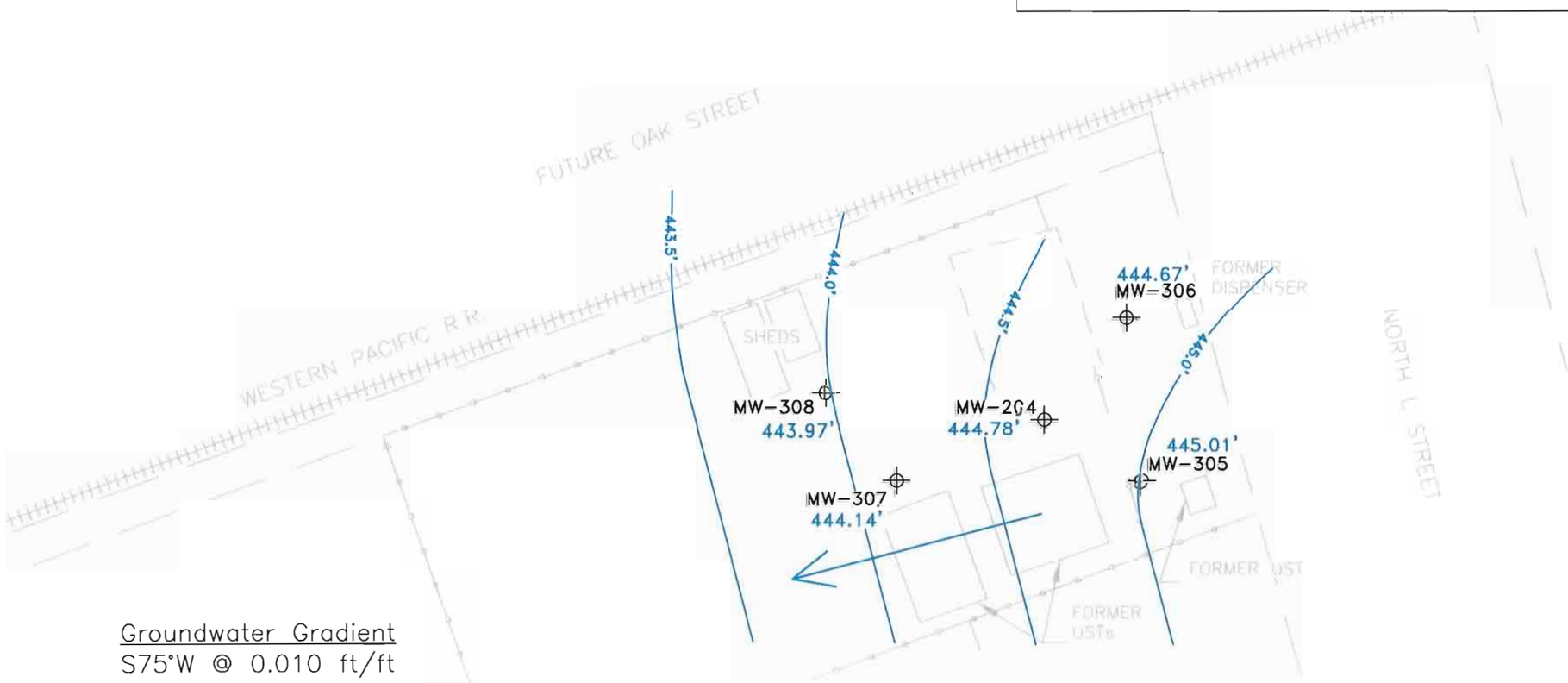
GROUND ZERO ANALYSIS, INC.

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





N

0 50
SCALE 1"=50'

Groundwater Gradient
S75°W @ 0.010 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. 445.01'

CONTOUR INTERVAL = 0.5 FEET

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

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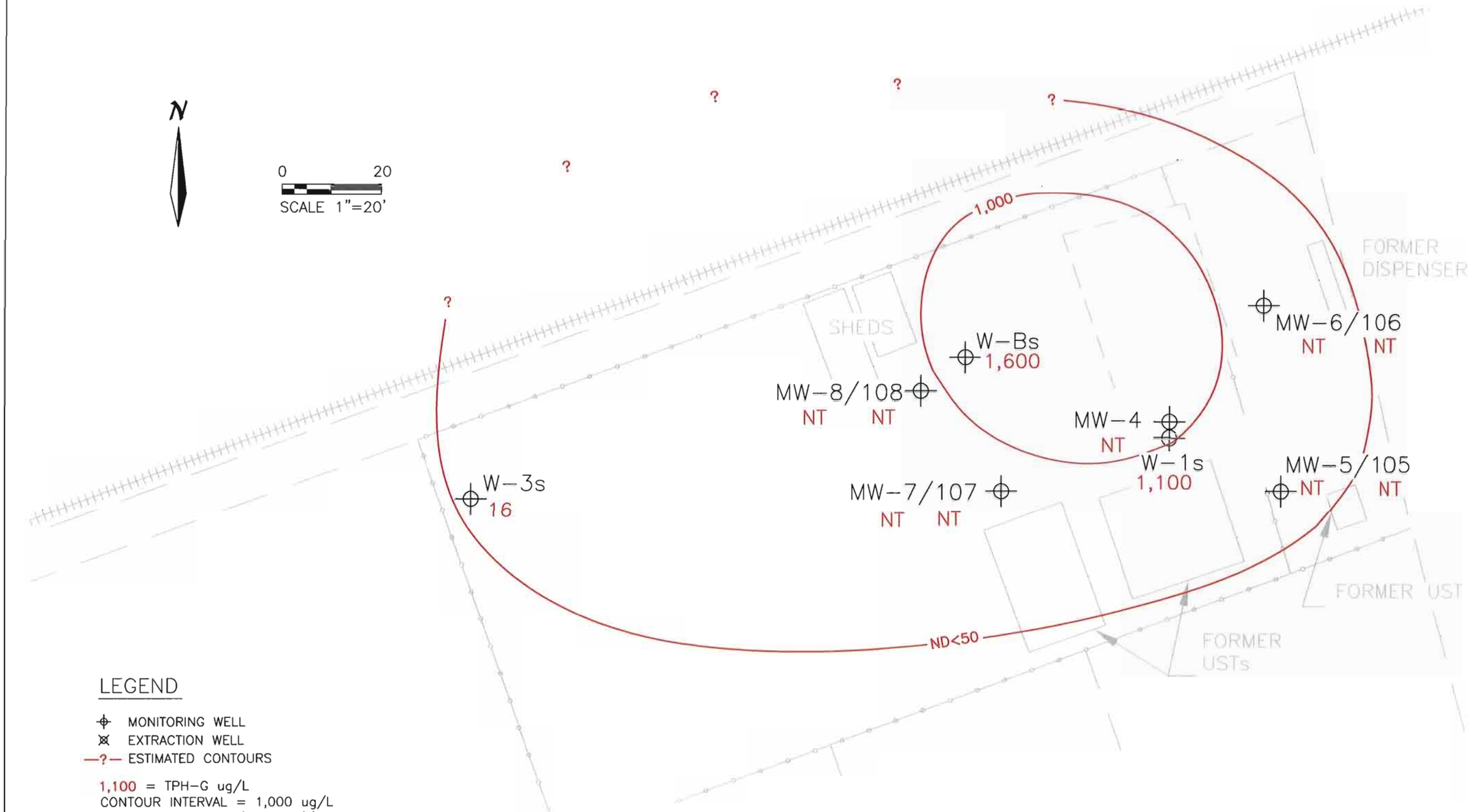
Job No:	1262.2 Date: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-3-13

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

1,100 = TPH-G ug/L
CONTOUR INTERVAL = 1,000 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.

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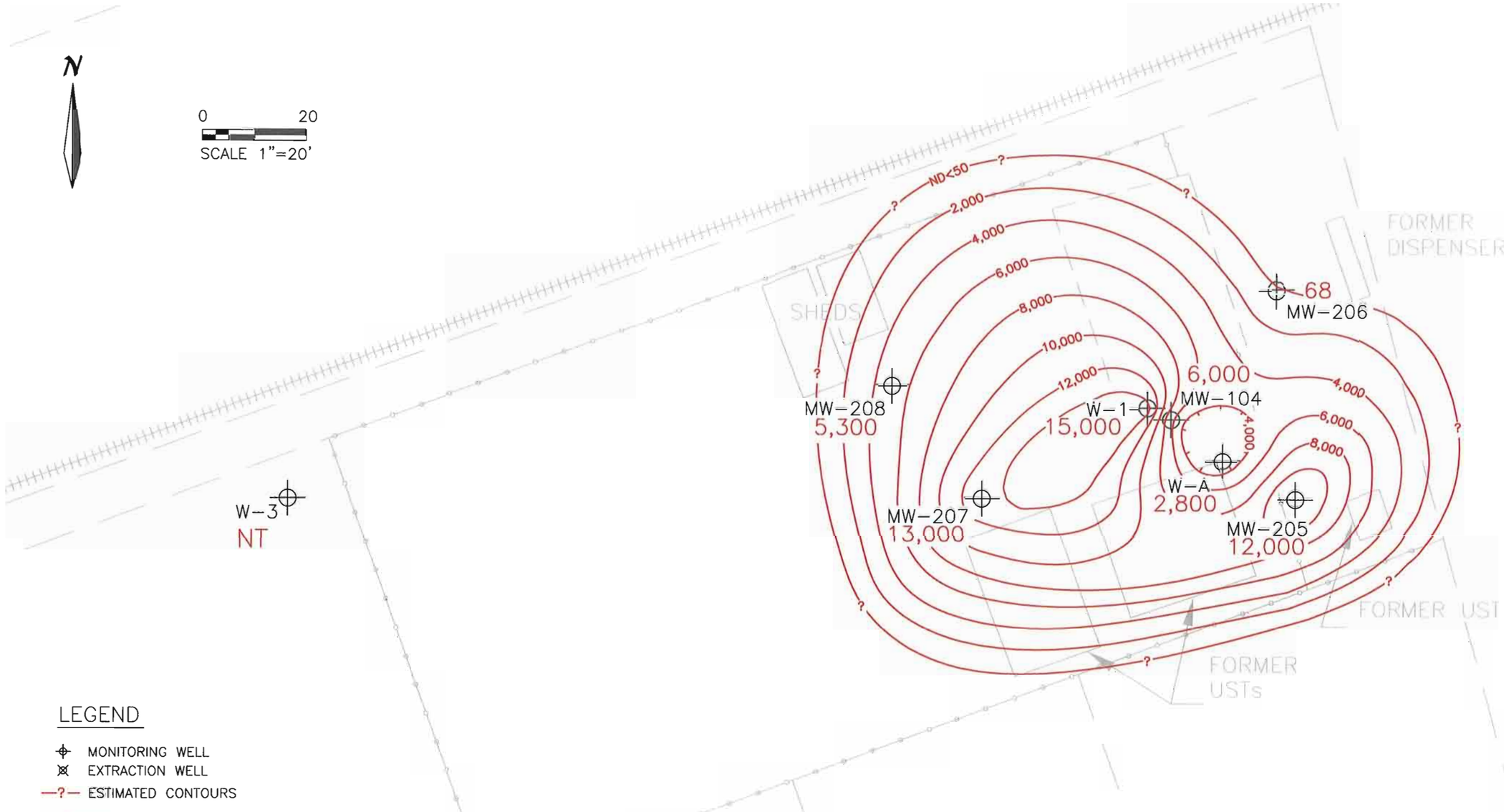
Job No: 1262.2	Date: 1-03-14
Scale:	1" = 50 feet
File: 12622 Graphics 12-3-13	

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

13,000 = TPH-G ug/L
CONTOUR INTERVAL = 2,000 ug/L
ND = NON-DETECT (<50 ug/L)
NT = NOT TESTED

NOTE:
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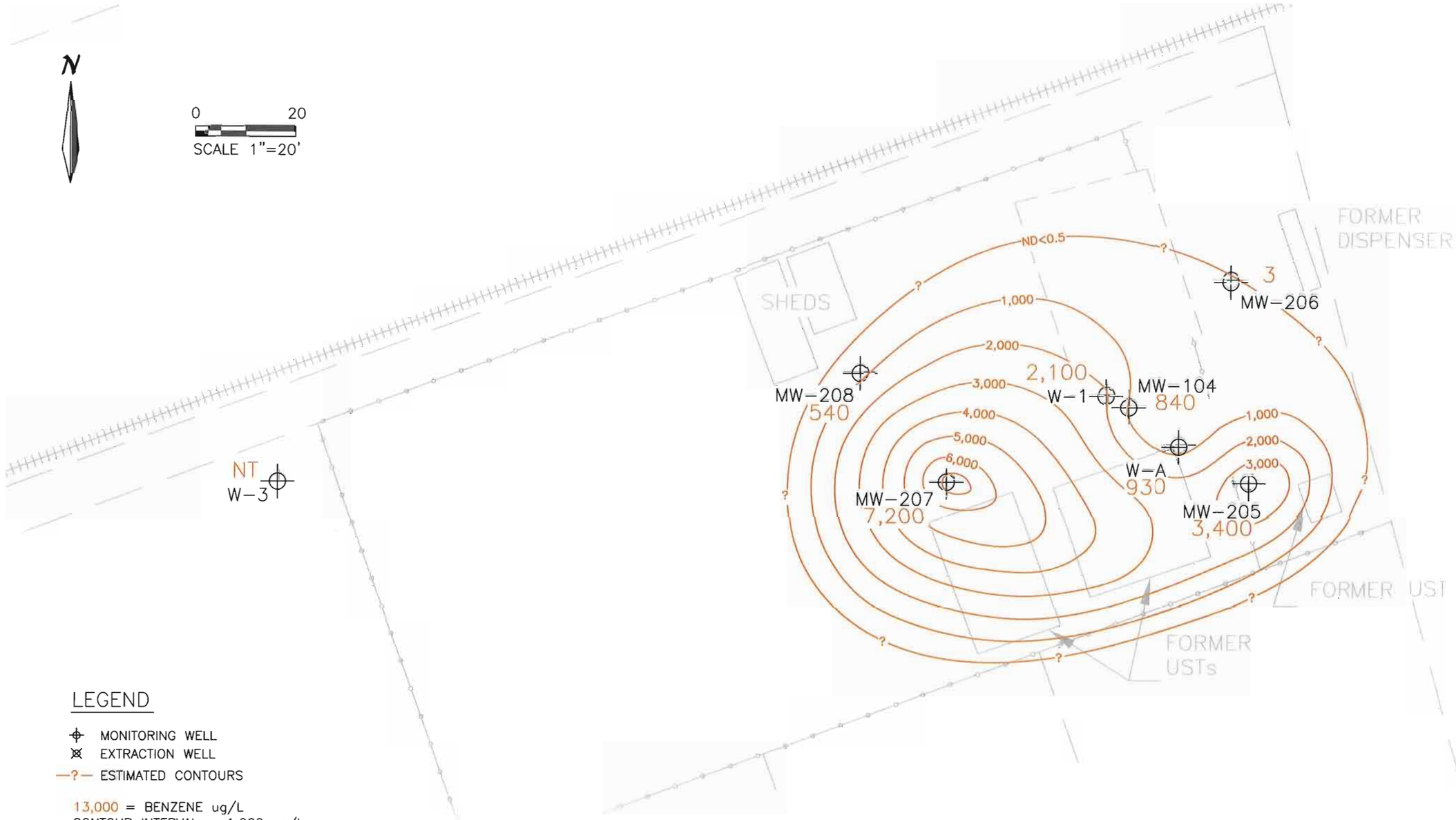
By:	AD
Job No:	1262.2 Date: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-3-13

GROUND ZERO ANALYSIS, INC.

FIGURE 7A: INTERM. WELL TPH-G CONCENTRATIONS

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



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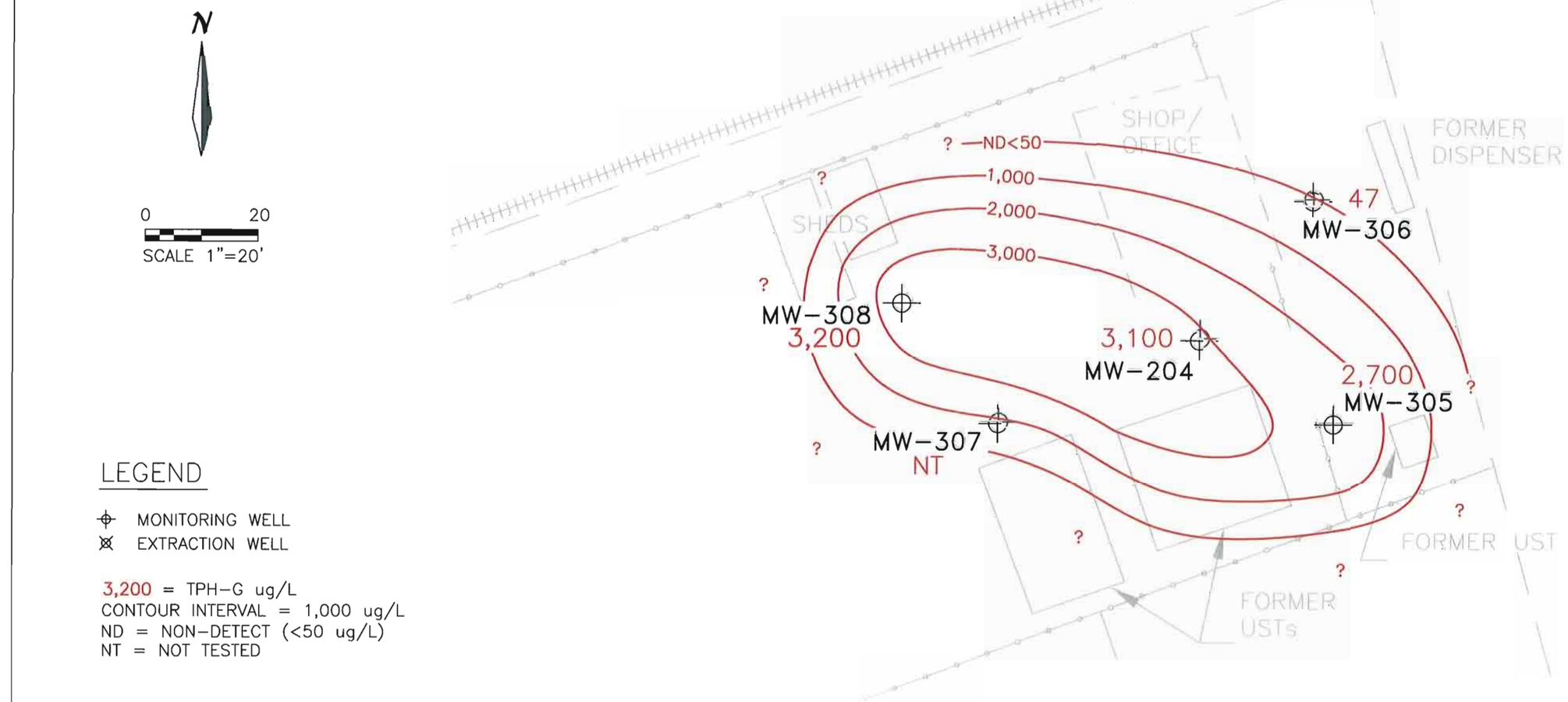
STREET RIGHT OF WAY IS APPROXIMATE, BASED ON ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED BY WOODWARD-CLYDE CONSULTANTS

By:	AD
Job No:	1262.2 Date: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-3-13

GROUND ZERO ANALYSIS, INC.

FIGURE 7B: INTERM. WELL BENZENE CONCENTRATIONS

ARROW RENTALS
187 NORTH L STREET
LIVERMORE, CA



LEGEND

- ⊕ MONITORING WELL
- ⊠ EXTRACTION WELL

3,200 = TPH-G ug/L
CONTOUR INTERVAL = 1,000 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: 01-03-14
Scale:	1" = 50 feet
File:	12622 Graphics 12-3-13

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

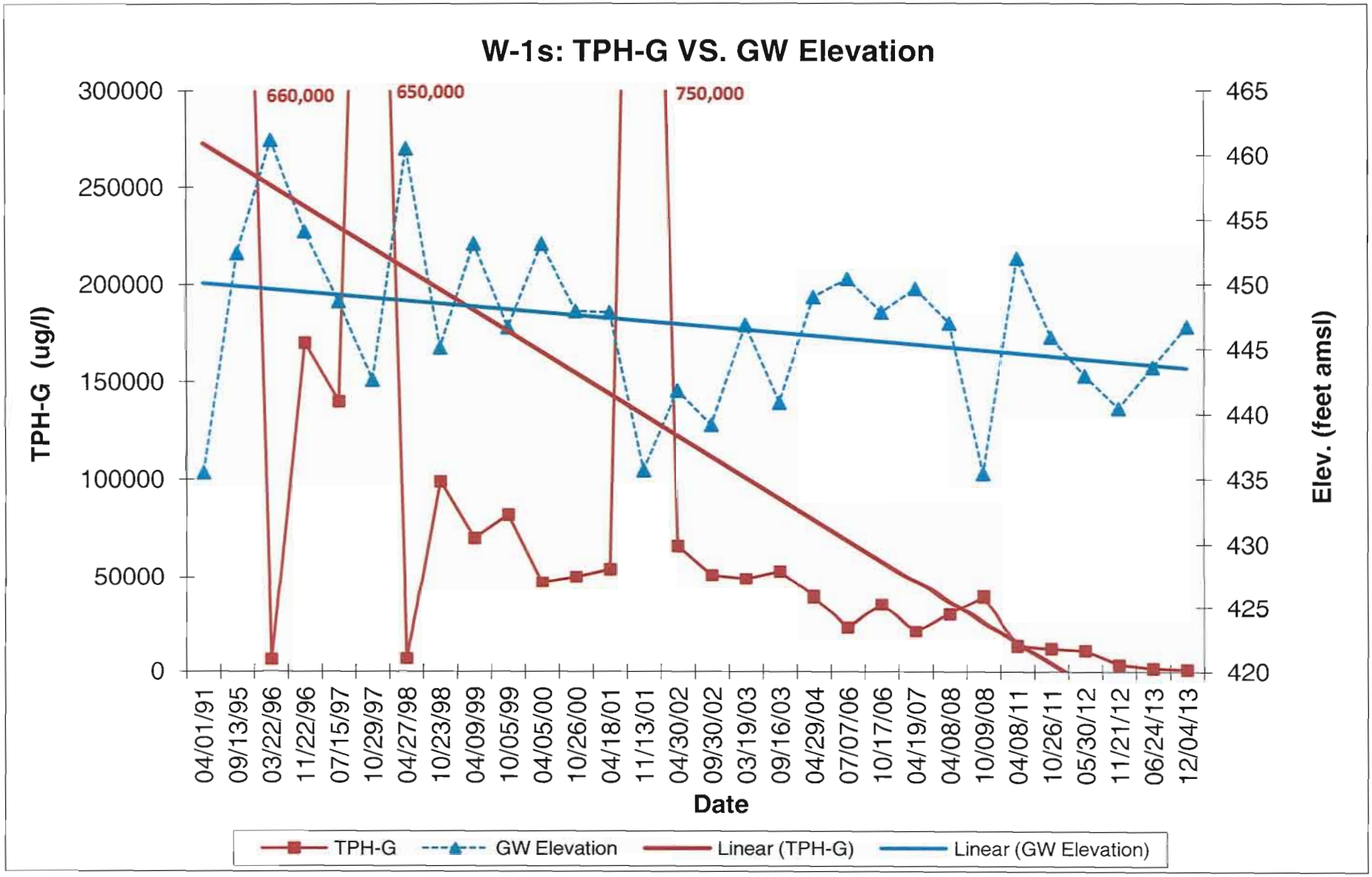


Figure 9B
Sullins
187 N.L Street
Livermore, CA

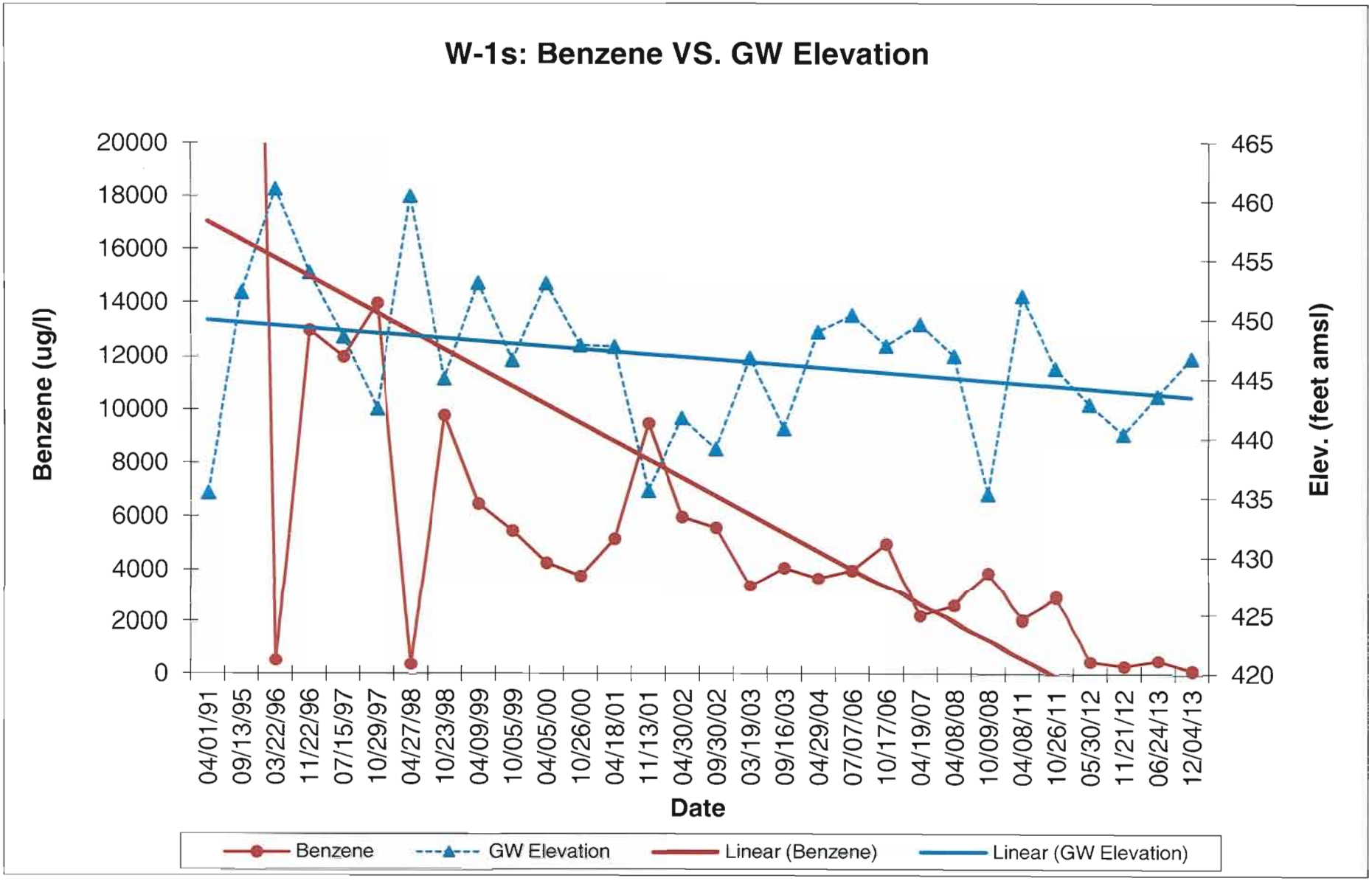


Figure 10A
Sullins
187 N.L Street
Livermore, CA

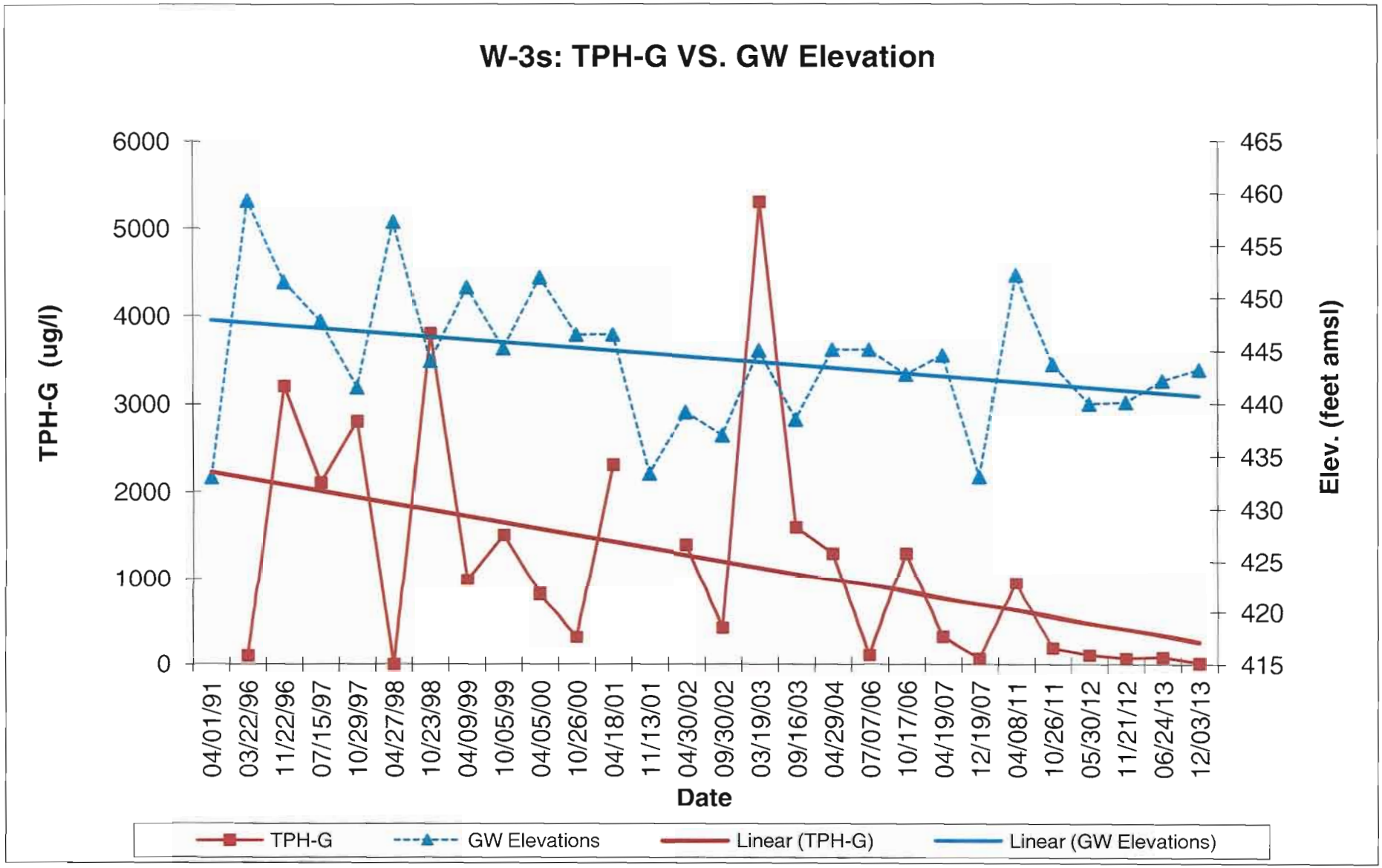
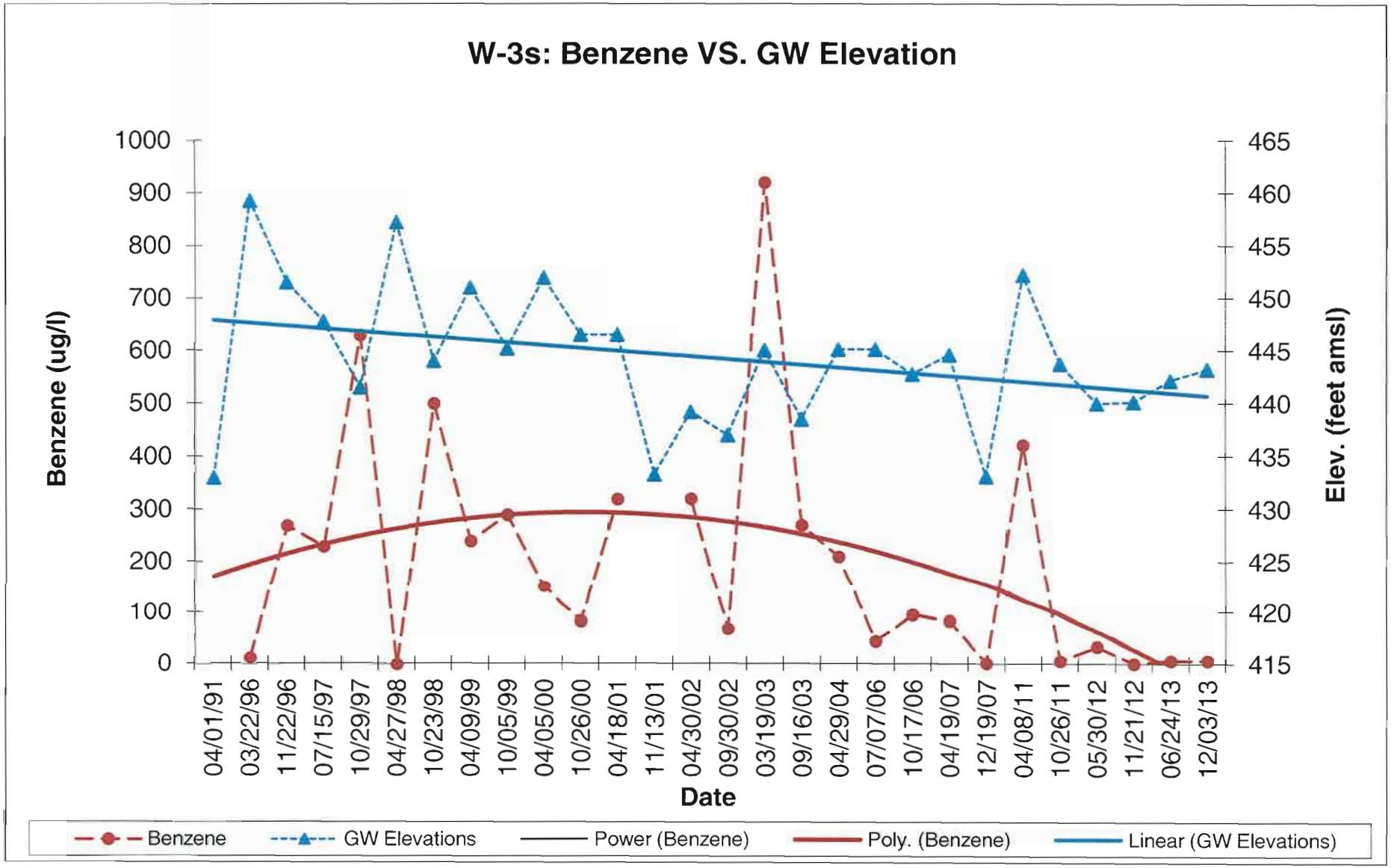


Figure 10B
Sullins
187 N.L Street
Livermore, CA



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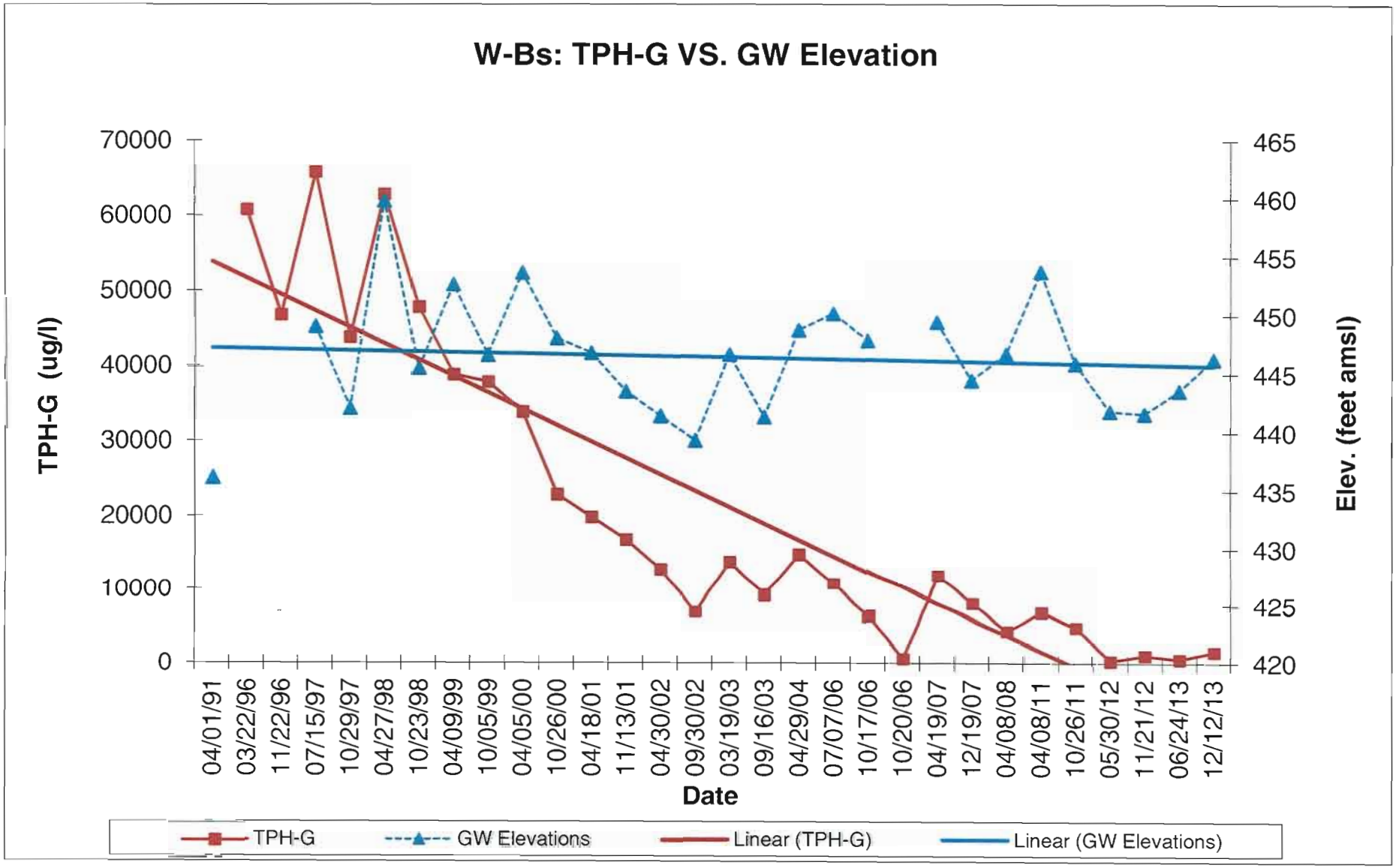
1262 gwad

1/28/2014

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



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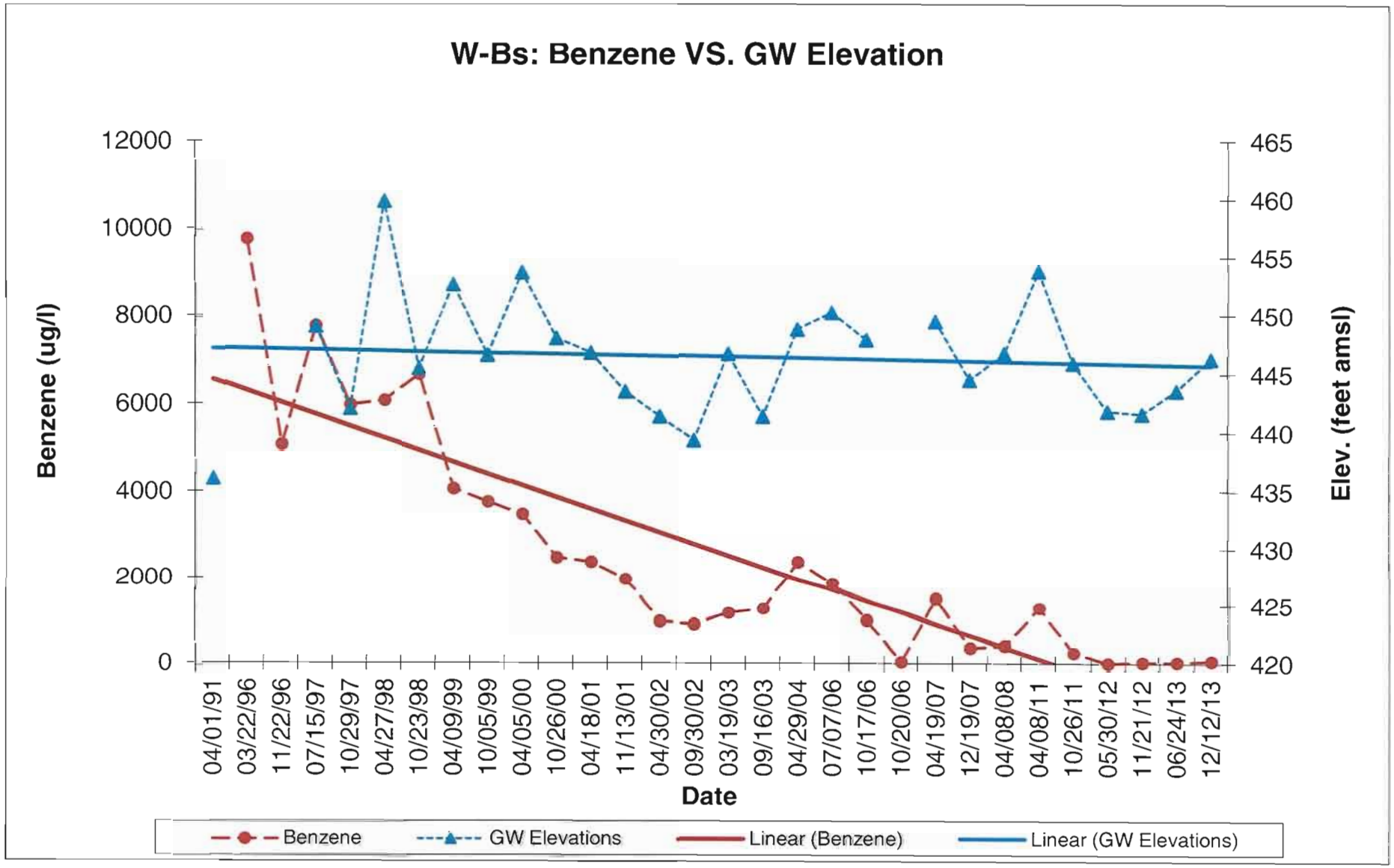
1262 gwad

1/28/2014

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



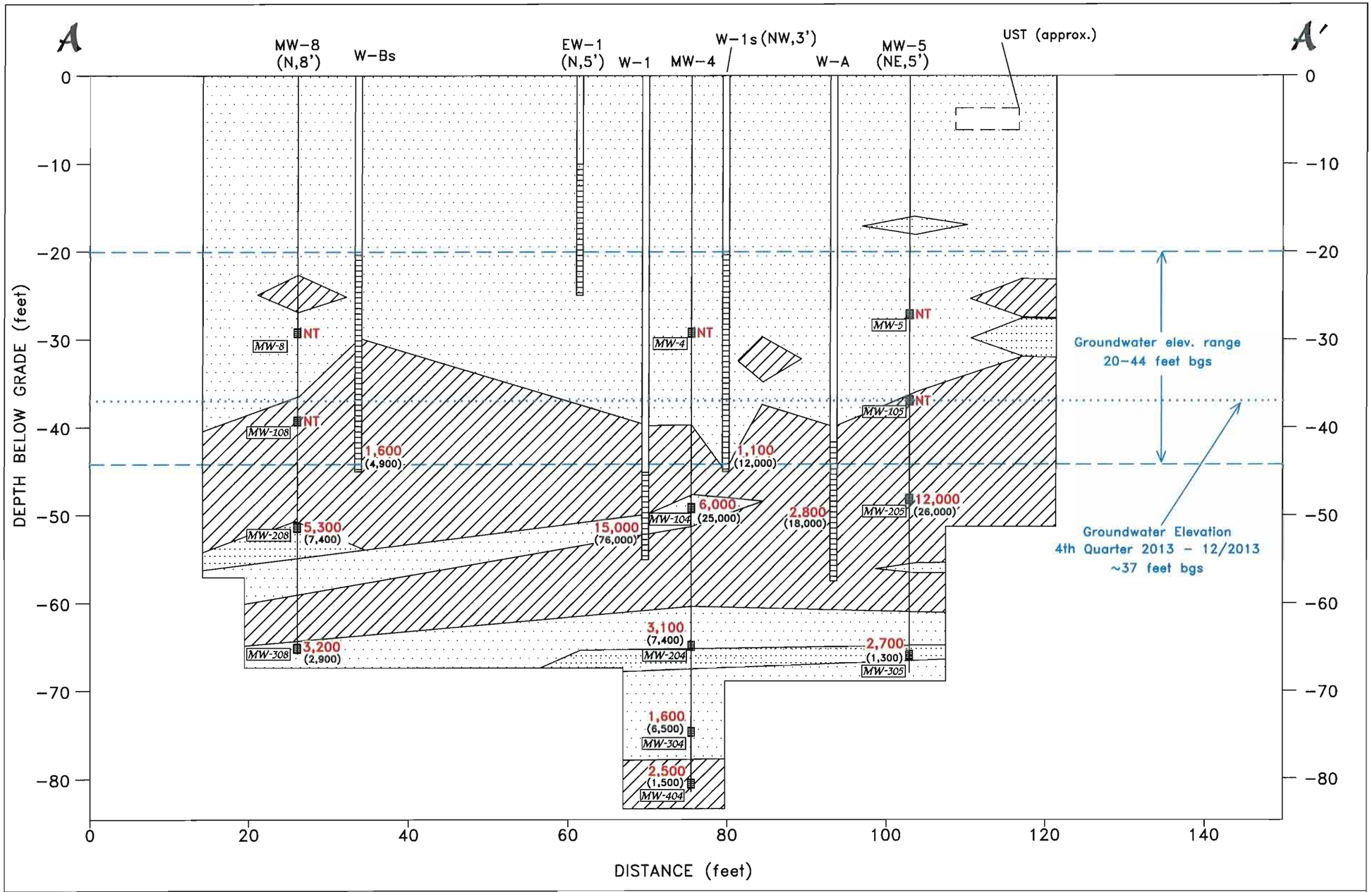


Figure 12
Cross Section A – A'
With TPH-G Soil plume
Arrow Rentals
187 N L Street
Livermore, CA
Project No.: 1262.2

Ground Zero Analysis, Inc. 1/22/14

LEGEND

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

2,500 = Groundwater TPH-G Concentration (mg/kg)

NT = Not Tested

MW-108 = CMT well screen section

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

Scale as Indicated.

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

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

SAND UNITS

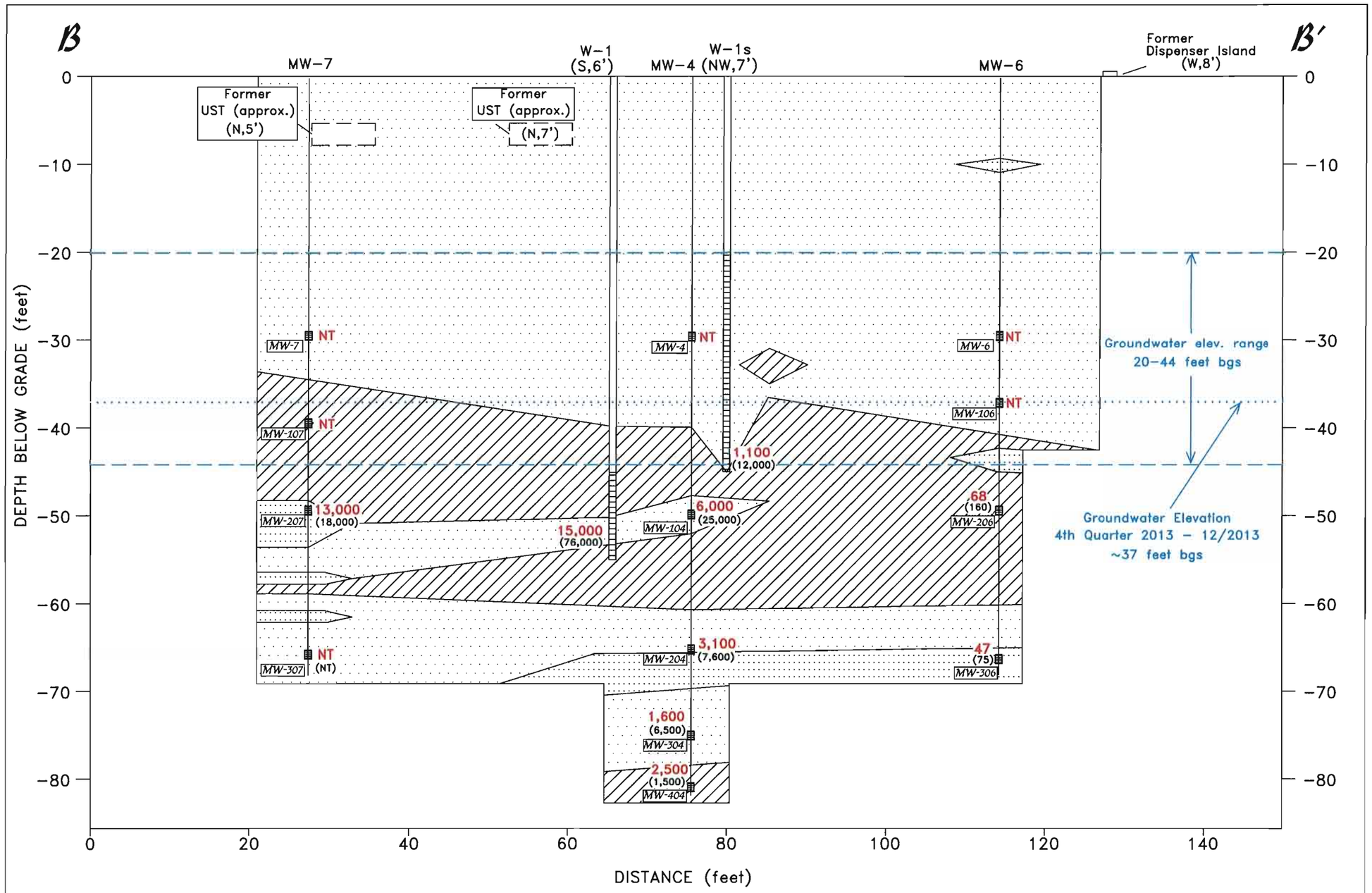


Figure 13
Cross Section B – B'
With TPH–gasoline
Arrow Rentals
187 N L Street
Livermore, CA
Project No.: 1262.2

Ground Zero Analysis, Inc. 1/22/14

LEGEND

Scale as Indicated.

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

2,500 = Groundwater TPH–G Concentration (mg/kg)

NT = Not Tested

MW-108 = CMT well screen section

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

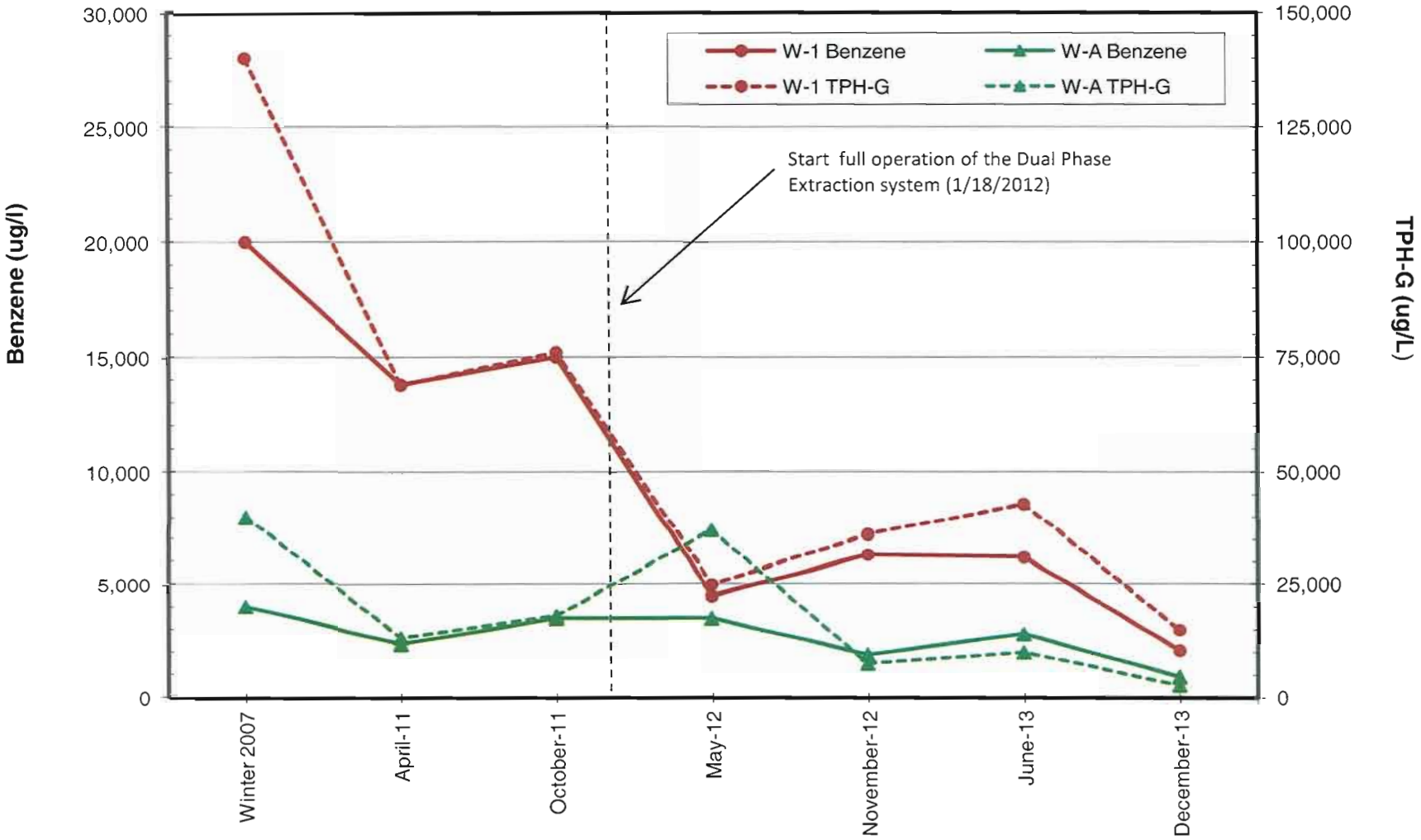
GRAVELLY UNITS UNITS (Includes sandy gravels,silty gravels, clayey gravels)

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

SAND UNITS

Figure 14
Sullins
187 N.L Street
Livermore, CA

Contaminant Trends in Intermediate Depth Core Wells: W-1 and W-A



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-Bs	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-Bs	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
																												(feet)	(feet)	(ft/ft)	
	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					
	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**

"-" = 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.

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	49.96	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**

"-" = 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

"-" = 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			

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	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/30/2012	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/19/2012	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-

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-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	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-	-	-	-	-
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												
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												
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												
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												
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												
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	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-

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
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	-	-	-	-	-	-	-
	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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	<0.5	<0.5	<1	1.2	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-

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	-	-	-	-	-

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

" - " = 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	383.8	236820	0	1400	0.00140	0.00037	0.00000082	0.00	109.47	17.80
12/31/2013	19967.6	9539.3	-	236820	-	-	-	-	-	-	109.47	17.80
									Total Mass Removed via GW 12/07/11 thru 12/31/13		**109.5**	**17.8**
									Total Mass Removed via GW 6/26/13 thru 12/31/13		**46.3**	**7.5**

* = 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	0.2196	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	0.0340	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	165.8	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	334.0	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	598.1	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	839.0	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	961.1	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	1344.7	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	1344.9	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**													

TOTAL Mass Removed 11/15/11 thru 12/31/13	**10941.3**	**1779.1**
TOTAL Mass Removed Between 6/26/13 & 12/31/13	**437.2**	**71.1**

* = 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**	
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
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
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: 08/19/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1316952
Invoice ID:	B153043

Enclosed are the results of analyses for samples received by the laboratory on 8/9/2013. 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

Chain of Custody and Cooler Receipt Form for 1316952 **Page 1 of 2**

GROUND ZERO ANALYSIS, INC.

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

Page 1 of 1

Chain of Custody

13-1316952

Project #: 1262.2
Project Name: Sullins
Site Address: 187 North L Street, Livermore, CA
Global ID No.: T0600100116
Client: GZA / Geological Technics
Client Address: 1172 Kansas Avenue
City, State, Zip: Modesto, CA 95351
Client Phone: (209) 522-4119

Billing To: Ground Zero Analysis, Inc.
EDF Report: ☐ Yes ☒ No
Report Attn: GZA / GT
Type of Event: GWM (Sys Monitoring) Drilling Other
Cc/ed Email: gzl@gtlenv.com
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)
8-8-13	1135		SVE-INF	1	G	None	X
			CHK RV				
			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:		ANDREW DORN	GZA	8-9-13	1210
Received / Relinquished by:		Ross Dickey	BCLABS	8-9-13	1210
Received / Relinquished by:		Ross Dickey	BCLABS	8-9-13	1850

Please return cooler / ice chest to GZA / Geological Technics REC 8-9-13 18:50 REL 8-9-13 23:25 KM 8-9-13 2325

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 1316952 Page 2 of 2

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

Submission #: 13-16952

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: Teddlar Bag Thermometer ID: — Date/Time 8/9/13

Temperature: (A) Room °C / (C) Temp °C Analyst Init KIQ 2325

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 - Teddlar Bag	A									
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: KIQ Date/Time: 8/9/13 @ 2350

( ) = Actual / [ ] = Corrected

I:\MyDOCS\WordPerfect\LAB_DOCS\FORMS\SAMREC15I

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

Reported: 08/19/2013 15:14
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1316952-01	**COC Number:**	---	**Receive Date:**	08/09/2013 23:25
	Project Number:	Sullins	**Sampling Date:**	08/08/2013 11:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SVE-INF	**Lab Matrix:**	Air
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Other
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): SVE-INF	
			Matrix: GS	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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

Reported: 08/19/2013 15:14
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: 1316952-01 | **Client Sample Name:** Sullins, SVE-INF, 8/8/2013 11:35:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	83	ug/m3	80	8.8	EPA-TO-15	ND	A01	1
Ethylbenzene	190	ug/m3	200	9.2	EPA-TO-15	ND	J,A01	1
Toluene	130	ug/m3	80	8.0	EPA-TO-15	ND	A01	1
Total Xylenes	1100	ug/m3	400	32	EPA-TO-15	ND	A01	1
Total Petroleum Hydrocarbons	78000	ug/m3	8000	1600	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	125	%	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	08/11/13	08/11/13 18:16	LHS	MS-A1	40	BWH0937

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

Reported: 08/19/2013 15:14
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: BWH0937						
Benzene	BWH0937-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWH0937-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWH0937-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWH0937-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWH0937-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	BWH0937-BLK1	127	%	70 - 130 (LCL - UCL)		

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

Reported: 08/19/2013 15:14
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: BWH0937										
Benzene	BWH0937-BS1	LCS	22.635	31.948	ug/m3	70.8		70 - 130		
	BWH0937-BSD1	LCSD	22.654	31.948	ug/m3	70.9	0.1	70 - 130	30	
Ethylbenzene	BWH0937-BS1	LCS	32.592	43.421	ug/m3	75.1		70 - 130		
	BWH0937-BSD1	LCSD	30.747	43.421	ug/m3	70.8	5.8	70 - 130	30	
Toluene	BWH0937-BS1	LCS	31.960	37.684	ug/m3	84.8		70 - 130		
	BWH0937-BSD1	LCSD	34.101	37.684	ug/m3	90.5	6.5	70 - 130	30	
Total Xylenes	BWH0937-BS1	LCS	121.86	130.26	ug/m3	93.5		70 - 130		
	BWH0937-BSD1	LCSD	118.90	130.26	ug/m3	91.3	2.5	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWH0937-BS1	LCS	74.594	71.574	ug/m3	104		70 - 130		
	BWH0937-BSD1	LCSD	69.527	71.574	ug/m3	97.1	7.0	70 - 130		

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

Reported: 08/19/2013 15:14
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: 09/06/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1318115
Invoice ID:	B154481

Enclosed are the results of analyses for samples received by the laboratory on 8/22/2013. 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

13-18115

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 (8015/8021)
8-22-13	1245	-1	SVE-INF UPPER	1	G	NONE	X	
↓	1335	-2	SVE-INF LOWER	1	G	NONE	X	
↓	1325	-3	GW-INF	7	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 DISTRIBUTION BC LABS SUB OUT

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	8-22-13	1525
Received / Relinquished by:	Ross Dickey	BCLABS	8-22-13	1525
Received / Relinquished by:	Ross Dickey	BCLABS	8-22-13	1830

Please return cooler / ice chest to GZA / Geological Technics

REC'D 8-22-13 18:30 REL'D 8-22-13 21:30 8/22/13 2130

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 1318115 Page 2 of 3

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

Submission #: 13-18115

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: 0.9 Container: Tedlar Bag Thermometer ID: 2077 Date/Time 8/23/13

Temperature: (A) Room °C / (C) Temp °C Analyst Init JNW 0130

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 Bag	A	A								
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: MVL Date/Time: 8/23/13 @ 0720

A = Actual / C = Corrected

Chain of Custody and Cooler Receipt Form for 1318115 Page 3 of 3

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

Submission #: 13-18115

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: VOC1 Thermometer ID: 207 Date/Time 8/22/13

Temperature: (A) 4.9 °C / (C) 4.4 °C Analyst Init JDW 2130

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			A7							
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: JDW Date/Time: 8/23/13 0720

A = Actual / C = Corrected

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

Reported: 09/06/2013 13:22
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1318115-01	**COC Number:**	---	**Receive Date:** 08/22/2013 21:30
	Project Number:	Sullins	**Sampling Date:** 08/22/2013 12:45
	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: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1318115-02	**COC Number:**	---	**Receive Date:** 08/22/2013 21:30
	Project Number:	Sullins	**Sampling Date:** 08/22/2013 13:35
	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: SO
			Sample QC Type (SACode): CS
			Cooler ID:
1318115-03	**COC Number:**	---	**Receive Date:** 08/22/2013 21:30
	Project Number:	Sullins	**Sampling Date:** 08/22/2013 13:25
	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:

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

Reported: 09/06/2013 13:22
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: 1318115-01 | **Client Sample Name:** Sullins, SVE-INF Upper, 8/22/2013 12:45:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	64	ug/m3	20	2.2	EPA-TO-15	ND	A01	1
Ethylbenzene	9.6	ug/m3	50	2.3	EPA-TO-15	ND	J,A01	1
Toluene	76	ug/m3	20	2.0	EPA-TO-15	ND	A01	1
Total Xylenes	78	ug/m3	100	8.0	EPA-TO-15	ND	J,A01	1
Total Petroleum Hydrocarbons	13000	ug/m3	2000	390	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	113	%	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	08/23/13	08/24/13 23:12	LHS	MS-A1	10	BWH2358

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

Reported: 09/06/2013 13:22
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: 1318115-02 | **Client Sample Name:** Sullins, SVE-INF Lower, 8/22/2013 1:35:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	59000	ug/m3	2000	220	EPA-TO-15	ND	A01	1
Ethylbenzene	4900	ug/m3	5000	230	EPA-TO-15	ND	J,A01	1
Toluene	13000	ug/m3	2000	200	EPA-TO-15	ND	A01	1
Total Xylenes	22000	ug/m3	10000	800	EPA-TO-15	ND	A01	1
Total Petroleum Hydrocarbons	410000	ug/m3	200000	39000	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	110	%	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	08/23/13	08/24/13 23:47	LHS	MS-A1	1000	BWH2358

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

Reported: 09/06/2013 13:22
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1318115-03 | **Client Sample Name:** Sullins, GW-INF, 8/22/2013 1:25:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.30	0.040	EPA-8021B	ND		1
Toluene	ND	ug/L	0.30	0.046	EPA-8021B	ND		1
Ethylbenzene	ND	ug/L	0.30	0.042	EPA-8021B	ND		1
Total Xylenes	ND	ug/L	0.60	0.14	EPA-8021B	ND		1
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	5.0	Luft	ND		2
a,a,a-Trifluorotoluene (PID Surrogate)	92.4	%	70 - 130 (LCL - UCL)		EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	94.6	%	70 - 130 (LCL - UCL)		Luft			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8021B	09/04/13	09/04/13 20:00	jjh	GC-V9	1	BWI0238
2	Luft	09/04/13	09/04/13 20:00	jjh	GC-V9	1	BWI0238

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

Reported: 09/06/2013 13:22
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWI0238						
Benzene	BWI0238-BLK1	ND	ug/L	0.30	0.040	
Toluene	BWI0238-BLK1	ND	ug/L	0.30	0.046	
Ethylbenzene	BWI0238-BLK1	ND	ug/L	0.30	0.042	
Total Xylenes	BWI0238-BLK1	ND	ug/L	0.60	0.14	
Gasoline Range Organics (C4 - C12)	BWI0238-BLK1	ND	ug/L	50	5.0	
a,a,a-Trifluorotoluene (PID Surrogate)	BWI0238-BLK1	83.8	%	70 - 130 (LCL - UCL)		
a,a,a-Trifluorotoluene (FID Surrogate)	BWI0238-BLK1	86.1	%	70 - 130 (LCL - UCL)		

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

Reported: 09/06/2013 13:22
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWI0238										
Benzene	BWI0238-BS1	LCS	34.711	40.000	ug/L	86.8		85 - 115		
Toluene	BWI0238-BS1	LCS	34.783	40.000	ug/L	87.0		85 - 115		
Ethylbenzene	BWI0238-BS1	LCS	36.055	40.000	ug/L	90.1		85 - 115		
Total Xylenes	BWI0238-BS1	LCS	107.99	120.00	ug/L	90.0		85 - 115		
Gasoline Range Organics (C4 - C12)	BWI0238-BS1	LCS	918.35	1000.0	ug/L	91.8		85 - 115		
a,a,a-Trifluorotoluene (PID Surrogate)	BWI0238-BS1	LCS	34.393	40.000	ug/L	86.0		70 - 130		
a,a,a-Trifluorotoluene (FID Surrogate)	BWI0238-BS1	LCS	35.530	40.000	ug/L	88.8		70 - 130		

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

Reported: 09/06/2013 13:22
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWI0238	Used client sample: N										
Benzene	MS	1316295-42	ND	34.630	40.000	ug/L		86.6		70 - 130	
	MSD	1316295-42	ND	35.234	40.000	ug/L	1.7	88.1	20	70 - 130	
Toluene	MS	1316295-42	ND	34.575	40.000	ug/L		86.4		70 - 130	
	MSD	1316295-42	ND	34.392	40.000	ug/L	0.5	86.0	20	70 - 130	
Ethylbenzene	MS	1316295-42	ND	36.029	40.000	ug/L		90.1		70 - 130	
	MSD	1316295-42	ND	37.400	40.000	ug/L	3.7	93.5	20	70 - 130	
Total Xylenes	MS	1316295-42	ND	107.78	120.00	ug/L		89.8		70 - 130	
	MSD	1316295-42	ND	112.08	120.00	ug/L	3.9	93.4	20	70 - 130	
Gasoline Range Organics (C4 - C12)	MS	1316295-42	ND	966.80	1000.0	ug/L		96.7		70 - 130	
	MSD	1316295-42	ND	971.70	1000.0	ug/L	0.5	97.2	20	70 - 130	
a,a,a-Trifluorotoluene (PID Surrogate)	MS	1316295-42	ND	34.997	40.000	ug/L		87.5		70 - 130	
	MSD	1316295-42	ND	35.116	40.000	ug/L	0.3	87.8		70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1316295-42	ND	35.621	40.000	ug/L		89.1		70 - 130	
	MSD	1316295-42	ND	35.945	40.000	ug/L	0.9	89.9		70 - 130	

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

Reported: 09/06/2013 13:22
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: BWH2358						
Benzene	BWH2358-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWH2358-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWH2358-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWH2358-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWH2358-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	BWH2358-BLK1	86.4	%	70 - 130 (LCL - UCL)		

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

Reported: 09/06/2013 13:22
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: BWH2358										
Benzene	BWH2358-BS1	LCS	30.909	31.948	ug/m3	96.7		70 - 130		
	BWH2358-BSD1	LCSD	30.459	31.948	ug/m3	95.3	1.5	70 - 130	30	
Ethylbenzene	BWH2358-BS1	LCS	40.347	43.421	ug/m3	92.9		70 - 130		
	BWH2358-BSD1	LCSD	39.513	43.421	ug/m3	91.0	2.1	70 - 130	30	
Toluene	BWH2358-BS1	LCS	38.024	37.684	ug/m3	101		70 - 130		
	BWH2358-BSD1	LCSD	37.353	37.684	ug/m3	99.1	1.8	70 - 130	30	
Total Xylenes	BWH2358-BS1	LCS	117.93	130.26	ug/m3	90.5		70 - 130		
	BWH2358-BSD1	LCSD	115.28	130.26	ug/m3	88.5	2.3	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWH2358-BS1	LCS	52.048	71.574	ug/m3	72.7		70 - 130		
	BWH2358-BSD1	LCSD	52.056	71.574	ug/m3	72.7	0.0	70 - 130		

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

Reported: 09/06/2013 13:22
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: 09/18/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1319016
Invoice ID:	B155471

Enclosed are the results of analyses for samples received by the laboratory on 9/4/2013. 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

Chain of Custody

13-19016

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

Sampled By (initials): AD, GZA / GT

	Sampling Info: 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 (8015 / 8021)	Analysis Requested: TPH-G, BTEX (8015 / 8021)
1	9-3-13	1145		SVE-INF UPPER	1	G	NONE	X	
2	↓	1035		SVE-INF LOWER	1	G	NONE	X	
3	↓	1045		GW-INF	6	W	HCL		X

CHK BY K10 DISTRIBUTION LAB/FILE 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:	ANDREW DORN	GZA	9-3-2013	9:45 1128
Received / Relinquished by: Ross Dickey	Ross Dickey	BCLAB	9.4.13	1128
Received / Relinquished by: Ross Dickey	Ross Dickey	BC LAB	9.4.13	1760

Please return cooler / ice chest to GZA / Geological Technics

EL. 9-4-13 22:55 REC Mary Bogan 9-4-13 1730 REL Mary Bogan 9-4-13 1830 REC 10 RUSAS 2255 9.4.13

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 1319016 Page 2 of 3

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

Submission #: 13-19016

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 9.4.13 2255

Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
GENERAL MINERAL/ GENERAL										
~~PE UNPRESERVED~~ Tedlar	A	A								
INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS										
CYANIDE										
NITROGEN FORMS										
TOTAL SULFIDE										
NITRATE / NITRITE										
TOTAL ORGANIC CARBON										
TOX										
CHEMICAL OXYGEN DEMAND										
PHENOLICS										
VOA VIAL TRAVEL BLANK										
VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
EPA 413.1, 413.2, 418.1										
ODOR										
BIOLOGICAL										
CTERIOLOGICAL										
VOA VIAL- 504										
EPA 508/608/8080										
EPA 515.1/8150										
EPA 525										
EPA 525 TRAVEL BLANK										
EPA 547										
EPA 531.1										
EPA 548										
EPA 549										
EPA 632										
EPA 8015M										
AMBER										
Z. JAR										
OZ. JAR										
L SLEEVE										
VIAL										
STIC BAG										
ROUS IRON										
CORE										
ART KIT										
bma Canister										

Comments:

Sample Numbering Completed By: SAS Date/Time: 9.4.13 2345

Actual / C = Corrected

I:\AMyDOCS\WordPerfect\LAB DOCS\FORMS\SAMREC16I

Chain of Custody and Cooler Receipt Form for 1319016 Page 3 of 3

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

mission #: 13-19016

SHIPPING INFORMATION
ral Express ☐ UPS ☐ Hand Delivery
ab Field Service ☑ Other ☐ (Specify)

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

FREE LIQUID
YES ☐ NO ☐

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

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

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

COC Received
YES ☐ NO

Emissivity: 0.98 Container: PT PK Thermometer ID: 207 Date/Time 9.4.13 2255

Temperature: (A) 1.4 °C / (C) 1.5 °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
ERAL MINERAL/ GENERAL										
NPRESERVED										
RGANIC CHEMICAL METALS										
IGANIC CHEMICAL METALS										
NIDE										
OGEN FORMS										
L SULFIDE										
RATE/NITRITE										
L ORGANIC CARBON										
HICAL OXYGEN DEMAND										
NOLICS										
VIAL TRAVEL BLANK										
VIAL			A 6							
13.1, 413.2, 418.1										
GICAL										
OLOGICAL										
VIAL-504										
08/608/8080										
15.1/8150										
5										
5 TRAVEL BLANK										
547										
531.1										
8										
9										
2										
5M										
VE										
AG										
RON										
nister										

dering Completed By: SAT Date/Time: 9.4.13 2255

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

Reported: 09/18/2013 16:14
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1319016-01	**COC Number:**	---	**Receive Date:**	09/04/2013 22:55
	Project Number:	Sullins	**Sampling Date:**	09/03/2013 11:45
	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:			
1319016-02	**COC Number:**	---	**Receive Date:**	09/04/2013 22:55
	Project Number:	Sullins	**Sampling Date:**	09/03/2013 10:35
	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:			
1319016-03	**COC Number:**	---	**Receive Date:**	09/04/2013 22:55
	Project Number:	Sullins	**Sampling Date:**	09/03/2013 10:45
	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.	**Reported:** 09/18/2013 16:14
1172 Kansas Avenue	Project: Sullins
Modesto, CA 95354	Project Number: 1262.2
	Project Manager: Project Manager

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

BCL Sample ID: 1319016-01 | **Client Sample Name:** Sullins, SVE-INF-UPPER, 9/3/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**2200**	ug/m3	1000	110	EPA-TO-15	ND	A01	1
Ethylbenzene	**4300**	ug/m3	2500	120	EPA-TO-15	ND	A01	1
Toluene	**2200**	ug/m3	1000	100	EPA-TO-15	ND	A01	1
Total Xylenes	**19000**	ug/m3	5000	400	EPA-TO-15	ND	A01	1
Total Petroleum Hydrocarbons	**130000**	ug/m3	100000	20000	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	114	%	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	09/04/13	09/05/13 12:23	LHS	MS-A1	500	BWH2632

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

Reported: 09/18/2013 16:14
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: 1319016-02 | **Client Sample Name:** Sullins, SVE-INF-LOWER, 9/3/2013 10:35:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	38000	ug/m3	4000	440	EPA-TO-15	ND	A01	1
Ethylbenzene	8300	ug/m3	10000	460	EPA-TO-15	ND	J,A01	1
Toluene	9500	ug/m3	4000	400	EPA-TO-15	ND	A01	1
Total Xylenes	28000	ug/m3	20000	1600	EPA-TO-15	ND	A01	1
Total Petroleum Hydrocarbons	710000	ug/m3	400000	78000	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	116	%	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	09/04/13	09/05/13 12:52	LHS	MS-A1	2000	BWH2632

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

Reported: 09/18/2013 16:14
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1319016-03 | **Client Sample Name:** Sullins, GW-INF, 9/3/2013 10:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**190**	**ug/L**	**3.0**	**0.40**	**EPA-8021B**	ND	**A01**	1
Toluene	**35**	**ug/L**	**0.30**	**0.046**	**EPA-8021B**	ND		2
Ethylbenzene	**26**	**ug/L**	**0.30**	**0.042**	**EPA-8021B**	ND		2
Total Xylenes	**150**	**ug/L**	**0.60**	**0.14**	**EPA-8021B**	ND		2
Gasoline Range Organics (C4 - C12)	**1200**	**ug/L**	**50**	**5.0**	**Luft**	ND		3
a,a,a-Trifluorotoluene (PID Surrogate)	83.5	%	70 - 130 (LCL - UCL)		EPA-8021B			1
a,a,a-Trifluorotoluene (PID Surrogate)	85.2	%	70 - 130 (LCL - UCL)		EPA-8021B			2
a,a,a-Trifluorotoluene (FID Surrogate)	95.2	%	70 - 130 (LCL - UCL)		Luft			3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8021B	09/11/13	09/17/13 09:33	jjh	GC-V9	10	BWI1071
2	EPA-8021B	09/11/13	09/16/13 18:58	jjh	GC-V9	1	BWI1071
3	Luft	09/11/13	09/16/13 18:58	jjh	GC-V9	1	BWI1071

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

Reported: 09/18/2013 16:14
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWI1071						
Benzene	BWI1071-BLK1	ND	ug/L	0.30	0.040	
Toluene	BWI1071-BLK1	ND	ug/L	0.30	0.046	
Ethylbenzene	BWI1071-BLK1	ND	ug/L	0.30	0.042	
Total Xylenes	BWI1071-BLK1	ND	ug/L	0.60	0.14	
Gasoline Range Organics (C4 - C12)	BWI1071-BLK1	ND	ug/L	50	5.0	
a,a,a-Trifluorotoluene (PID Surrogate)	BWI1071-BLK1	83.2	%	70 - 130 (LCL - UCL)		
a,a,a-Trifluorotoluene (FID Surrogate)	BWI1071-BLK1	85.1	%	70 - 130 (LCL - UCL)		

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

Reported: 09/18/2013 16:14
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWI1071										
Benzene	BWI1071-BS1	LCS	44.266	40.000	ug/L	111		85 - 115		
Toluene	BWI1071-BS1	LCS	40.829	40.000	ug/L	102		85 - 115		
Ethylbenzene	BWI1071-BS1	LCS	39.622	40.000	ug/L	99.1		85 - 115		
Total Xylenes	BWI1071-BS1	LCS	117.66	120.00	ug/L	98.1		85 - 115		
Gasoline Range Organics (C4 - C12)	BWI1071-BS1	LCS	934.23	1000.0	ug/L	93.4		85 - 115		
a,a,a-Trifluorotoluene (PID Surrogate)	BWI1071-BS1	LCS	38.283	40.000	ug/L	95.7		70 - 130		
a,a,a-Trifluorotoluene (FID Surrogate)	BWI1071-BS1	LCS	35.232	40.000	ug/L	88.1		70 - 130		

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

Reported: 09/18/2013 16:14
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWI1071	Used client sample: N										
Benzene	MS	1316295-84	ND	43.498	40.000	ug/L		109		70 - 130	
	MSD	1316295-84	ND	44.272	40.000	ug/L	1.8	111	20	70 - 130	
Toluene	MS	1316295-84	ND	40.071	40.000	ug/L		100		70 - 130	
	MSD	1316295-84	ND	40.949	40.000	ug/L	2.2	102	20	70 - 130	
Ethylbenzene	MS	1316295-84	ND	38.796	40.000	ug/L		97.0		70 - 130	
	MSD	1316295-84	ND	39.688	40.000	ug/L	2.3	99.2	20	70 - 130	
Total Xylenes	MS	1316295-84	ND	115.38	120.00	ug/L		96.2		70 - 130	
	MSD	1316295-84	ND	117.85	120.00	ug/L	2.1	98.2	20	70 - 130	
Gasoline Range Organics (C4 - C12)	MS	1316295-84	ND	886.64	1000.0	ug/L		88.7		70 - 130	
	MSD	1316295-84	ND	904.08	1000.0	ug/L	1.9	90.4	20	70 - 130	
a,a,a-Trifluorotoluene (PID Surrogate)	MS	1316295-84	ND	37.178	40.000	ug/L		92.9		70 - 130	
	MSD	1316295-84	ND	36.872	40.000	ug/L	0.8	92.2		70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1316295-84	ND	34.252	40.000	ug/L		85.6		70 - 130	
	MSD	1316295-84	ND	34.241	40.000	ug/L	0.0	85.6		70 - 130	

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

Reported: 09/18/2013 16:14
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: BWH2632						
Benzene	BWH2632-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWH2632-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWH2632-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWH2632-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWH2632-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	BWH2632-BLK1	114	%	70 - 130 (LCL - UCL)		

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

Reported: 09/18/2013 16:14
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: BWH2632										
Benzene	BWH2632-BS1	LCS	26.635	31.948	ug/m3	83.4		70 - 130		
	BWH2632-BSD1	LCSD	26.750	31.948	ug/m3	83.7	0.4	70 - 130	30	
Ethylbenzene	BWH2632-BS1	LCS	38.671	43.421	ug/m3	89.1		70 - 130		
	BWH2632-BSD1	LCSD	38.793	43.421	ug/m3	89.3	0.3	70 - 130	30	
Toluene	BWH2632-BS1	LCS	36.501	37.684	ug/m3	96.9		70 - 130		
	BWH2632-BSD1	LCSD	36.803	37.684	ug/m3	97.7	0.8	70 - 130	30	
Total Xylenes	BWH2632-BS1	LCS	121.97	130.26	ug/m3	93.6		70 - 130		
	BWH2632-BSD1	LCSD	122.41	130.26	ug/m3	94.0	0.4	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWH2632-BS1	LCS	70.443	71.574	ug/m3	98.4		70 - 130		
	BWH2632-BSD1	LCSD	71.466	71.574	ug/m3	99.8	1.4	70 - 130		

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

Reported: 09/18/2013 16:14
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: 10/15/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1320490
Invoice ID:	B157412

Enclosed are the results of analyses for samples received by the laboratory on 9/20/2013. 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

13-20490

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	EPA METHOD 8260 *	pH (EPA 150.1)	TOTAL TOXIC ORGANICS (EPA 624)	TOTAL TOXIC ORGANICS (EPA 625)	TPH-G & BTEX (gas/water)	TPH-G & BTEX (LT0-15)
-1	9-20-13	1145		GW-DIS	9	W	VARIES	X	X	X	X		
-2	9-20-13	1135		SVE-INF UPPER	1	G	—						X

CHK BY: KAQ

DISTRIBUTION: MA | SM | LHS | JKQ

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

* EPA METHOD 8260 INCLUDES:
TPH-G, BTEX, MTBE, DIPE, ETBE, TAME & TBA

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	9.20.13	1623
Received / Relinquished by:	Ross Didley	BCLAB	9.20.13	1623
Received / Relinquished by:	Ross Didley	BCLAB	9.20.13	1630

Please return cooler / ice chest to GZA / Geological Technics

REC @ 9-2013 16:30 REL @ 9-20-13 22:30 Rec-KQ - 9-20-13 22?

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 1320490 Page 2 of 3

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

ubmission #: 13-20490

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

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

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

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

COC Received ☑ YES ☐ NO

Emissivity: 0.98 Container: Pt PE Thermometer ID: 207 Date/Time 9.20.13 2230

Temperature: (A) 3.2 °C / (C) 3.3 °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
GENERAL MINERAL/ GENERAL										
PE UNPRESERVED	B									
INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS										
CYANIDE										
NITROGEN FORMS										
TOTAL SULFIDE										
NITRATE / NITRITE										
TOTAL ORGANIC CARBON										
TOX										
CHEMICAL OXYGEN DEMAND										
PHENOLICS										
1 VOA VIAL TRAVEL BLANK										
1 VOA VIAL	A B									
EPA 413.1, 413.2, 418.1										
ODOR										
BIOLOGICAL										
CTERIOLOGICAL										
1 VOA VIAL- 504										
EPA 508/608/8080										
EPA 515.1/8150										
EPA 525										
EPA 525 TRAVEL BLANK										
al EPA 547										
al EPA 531.1										
EPA 548										
EPA 549										
EPA 632										
EPA 8015M										
AMBER	CD									
_ JAR										
Z. JAR										
_ SLEEVE										
VIAL										
STIC BAG										
ROUS IRON										
ORE										
RT KIT										
ma Canister										

ments:_____

Chain of Custody and Cooler Receipt Form for 1320490 Page 3 of 3

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

Submission #: 13-20490

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 9.20.13 2232

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		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										
PIA 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: 9.20.13 2320

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1320490-01	**COC Number:**	---	**Receive Date:**	09/20/2013 22:30
	Project Number:	Sullins	**Sampling Date:**	09/20/2013 11:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	GW-DIS	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): GW-DIS	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1320490-02	**COC Number:**	---	**Receive Date:**	09/20/2013 22:30
	Project Number:	Sullins	**Sampling Date:**	09/20/2013 11:35
	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: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-624	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.24	EPA-624	ND		1
Bromoform	ND	ug/L	0.50	0.26	EPA-624	ND		1
Bromomethane	ND	ug/L	1.0	0.12	EPA-624	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.12	EPA-624	ND		1
Chlorobenzene	ND	ug/L	0.50	0.063	EPA-624	ND		1
Chloroethane	ND	ug/L	0.50	0.12	EPA-624	ND		1
Chloroform	ND	ug/L	0.50	0.12	EPA-624	ND		1
Chloromethane	ND	ug/L	0.50	0.13	EPA-624	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.13	EPA-624	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.072	EPA-624	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.059	EPA-624	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.092	EPA-624	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.070	EPA-624	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.14	EPA-624	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.13	EPA-624	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-624	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.071	EPA-624	ND		1
Ethylbenzene	ND	ug/L	0.50	0.077	EPA-624	ND		1
Methylene chloride	ND	ug/L	1.0	0.48	EPA-624	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-624	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.095	EPA-624	ND		1
Toluene	ND	ug/L	0.50	0.067	EPA-624	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.11	EPA-624	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.15	EPA-624	ND		1
Trichloroethene	ND	ug/L	0.50	0.072	EPA-624	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.079	EPA-624	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.12	EPA-624	ND		1
Vinyl chloride	ND	ug/L	0.50	0.11	EPA-624	ND		1
Total Xylenes	ND	ug/L	0.50	0.22	EPA-624	ND		1

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 624)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
p- & m-Xylenes	ND	ug/L	0.50	0.17	EPA-624	ND		1
o-Xylene	ND	ug/L	0.50	0.050	EPA-624	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.2	%	75 - 125 (LCL - UCL)		EPA-624			1
Toluene-d8 (Surrogate)	97.2	%	80 - 120 (LCL - UCL)		EPA-624			1
4-Bromofluorobenzene (Surrogate)	91.7	%	80 - 120 (LCL - UCL)		EPA-624			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-624	09/25/13	09/25/13 11:34	MGC	MS-V7	1	BWI1833

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	ug/L	2.0	0.24	EPA-625	ND		1
Acenaphthylene	ND	ug/L	2.0	0.28	EPA-625	ND		1
Aldrin	ND	ug/L	2.0	0.35	EPA-625	ND		1
Aniline	ND	ug/L	5.0	0.69	EPA-625	ND		1
Anthracene	ND	ug/L	2.0	0.30	EPA-625	ND		1
Benzidine	ND	ug/L	20	7.1	EPA-625	ND		1
Benzo[a]anthracene	ND	ug/L	2.0	0.38	EPA-625	ND		1
Benzo[b]fluoranthene	ND	ug/L	2.0	0.41	EPA-625	ND		1
Benzo[k]fluoranthene	ND	ug/L	2.0	0.31	EPA-625	ND		1
Benzo[a]pyrene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Benzo[g,h,i]perylene	ND	ug/L	2.0	0.22	EPA-625	ND		1
Benzoic acid	ND	ug/L	10	5.8	EPA-625	ND		1
Benzyl alcohol	ND	ug/L	2.0	0.34	EPA-625	ND		1
Benzyl butyl phthalate	ND	ug/L	2.0	0.47	EPA-625	ND		1
alpha-BHC	ND	ug/L	2.0	0.27	EPA-625	ND		1
beta-BHC	ND	ug/L	2.0	0.27	EPA-625	ND		1
delta-BHC	ND	ug/L	2.0	0.30	EPA-625	ND		1
gamma-BHC (Lindane)	ND	ug/L	2.0	0.22	EPA-625	ND		1
bis(2-Chloroethoxy)methane	ND	ug/L	2.0	0.27	EPA-625	ND		1
bis(2-Chloroethyl) ether	ND	ug/L	2.0	0.68	EPA-625	ND		1
bis(2-Chloroisopropyl)ether	ND	ug/L	2.0	0.30	EPA-625	ND		1
bis(2-Ethylhexyl)phthalate	**9.0**	**ug/L**	**5.0**	**3.0**	**EPA-625**	ND		1
4-Bromophenyl phenyl ether	ND	ug/L	2.0	0.23	EPA-625	ND		1
4-Chloroaniline	ND	ug/L	2.0	0.69	EPA-625	ND		1
2-Chloronaphthalene	ND	ug/L	2.0	0.34	EPA-625	ND		1
4-Chlorophenyl phenyl ether	ND	ug/L	2.0	0.23	EPA-625	ND		1
Chrysene	ND	ug/L	2.0	0.63	EPA-625	ND		1
4,4'-DDD	ND	ug/L	2.0	0.48	EPA-625	ND		1
4,4'-DDE	ND	ug/L	3.0	0.41	EPA-625	ND		1
4,4'-DDT	ND	ug/L	2.0	0.43	EPA-625	ND		1
Dibenzo[a,h]anthracene	ND	ug/L	3.0	0.26	EPA-625	ND		1
Dibenzofuran	ND	ug/L	2.0	0.21	EPA-625	ND		1
1,2-Dichlorobenzene	ND	ug/L	2.0	0.37	EPA-625	ND		1

Ground Zero Analysis, Inc.
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Modesto, CA 95354

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

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	ug/L	2.0	0.35	EPA-625	ND		1
1,4-Dichlorobenzene	ND	ug/L	2.0	0.31	EPA-625	ND		1
3,3-Dichlorobenzidine	ND	ug/L	10	8.2	EPA-625	ND		1
Dieldrin	ND	ug/L	3.0	0.41	EPA-625	ND		1
Diethyl phthalate	ND	ug/L	2.0	0.33	EPA-625	ND		1
Dimethyl phthalate	ND	ug/L	2.0	0.39	EPA-625	ND		1
Di-n-butyl phthalate	ND	ug/L	2.0	0.39	EPA-625	ND		1
2,4-Dinitrotoluene	ND	ug/L	2.0	0.26	EPA-625	ND		1
2,6-Dinitrotoluene	ND	ug/L	2.0	0.41	EPA-625	ND		1
Di-n-octyl phthalate	ND	ug/L	2.0	0.46	EPA-625	ND		1
1,2-Diphenylhydrazine	ND	ug/L	2.0	0.34	EPA-625	ND		1
Endosulfan I	ND	ug/L	10	1.7	EPA-625	ND		1
Endosulfan II	ND	ug/L	10	1.2	EPA-625	ND		1
Endosulfan sulfate	ND	ug/L	3.0	0.58	EPA-625	ND		1
Endrin	ND	ug/L	2.0	1.1	EPA-625	ND		1
Endrin aldehyde	ND	ug/L	10	0.52	EPA-625	ND		1
Fluoranthene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Fluorene	ND	ug/L	2.0	0.28	EPA-625	ND		1
Heptachlor	ND	ug/L	2.0	0.32	EPA-625	ND		1
Heptachlor epoxide	ND	ug/L	2.0	0.27	EPA-625	ND		1
Hexachlorobenzene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Hexachlorobutadiene	ND	ug/L	2.0	0.24	EPA-625	ND		1
Hexachlorocyclopentadiene	ND	ug/L	2.0	0.30	EPA-625	ND		1
Hexachloroethane	ND	ug/L	2.0	0.32	EPA-625	ND		1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2.0	0.26	EPA-625	ND		1
Isophorone	ND	ug/L	2.0	0.31	EPA-625	ND		1
2-Methylnaphthalene	ND	ug/L	2.0	0.28	EPA-625	ND		1
Naphthalene	ND	ug/L	2.0	0.21	EPA-625	ND		1
2-Naphthylamine	ND	ug/L	20	4.8	EPA-625	ND		1
2-Nitroaniline	ND	ug/L	2.0	0.33	EPA-625	ND		1
3-Nitroaniline	ND	ug/L	2.0	0.66	EPA-625	ND		1
4-Nitroaniline	ND	ug/L	5.0	0.87	EPA-625	ND		1
Nitrobenzene	ND	ug/L	2.0	0.26	EPA-625	ND		1

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

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	ug/L	2.0	0.61	EPA-625	ND		1
N-Nitrosodi-N-propylamine	ND	ug/L	2.0	1.3	EPA-625	ND		1
N-Nitrosodiphenylamine	ND	ug/L	2.0	0.44	EPA-625	ND		1
Phenanthrene	ND	ug/L	2.0	0.20	EPA-625	ND		1
Pyrene	ND	ug/L	2.0	0.26	EPA-625	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	2.0	0.27	EPA-625	ND		1
4-Chloro-3-methylphenol	ND	ug/L	5.0	0.40	EPA-625	ND		1
2-Chlorophenol	ND	ug/L	2.0	0.37	EPA-625	ND		1
2,4-Dichlorophenol	ND	ug/L	2.0	0.43	EPA-625	ND		1
2,4-Dimethylphenol	ND	ug/L	2.0	0.20	EPA-625	ND		1
4,6-Dinitro-2-methylphenol	ND	ug/L	10	0.34	EPA-625	ND		1
2,4-Dinitrophenol	ND	ug/L	10	0.20	EPA-625	ND		1
2-Methylphenol	ND	ug/L	2.0	1.0	EPA-625	ND		1
3- & 4-Methylphenol	ND	ug/L	2.0	1.6	EPA-625	ND		1
2-Nitrophenol	ND	ug/L	2.0	0.28	EPA-625	ND		1
4-Nitrophenol	ND	ug/L	2.0	0.73	EPA-625	ND		1
Pentachlorophenol	ND	ug/L	10	0.79	EPA-625	ND		1
Phenol	ND	ug/L	2.0	0.20	EPA-625	ND		1
2,4,5-Trichlorophenol	ND	ug/L	5.0	0.31	EPA-625	ND		1
2,4,6-Trichlorophenol	ND	ug/L	5.0	0.60	EPA-625	ND		1
2-Fluorophenol (Surrogate)	38.2	%	30 - 120 (LCL - UCL)		EPA-625			1
Phenol-d5 (Surrogate)	36.8	%	12 - 110 (LCL - UCL)		EPA-625			1
Nitrobenzene-d5 (Surrogate)	87.5	%	60 - 130 (LCL - UCL)		EPA-625			1
2-Fluorobiphenyl (Surrogate)	83.2	%	55 - 125 (LCL - UCL)		EPA-625			1
2,4,6-Tribromophenol (Surrogate)	66.8	%	40 - 150 (LCL - UCL)		EPA-625			1
p-Terphenyl-d14 (Surrogate)	88.1	%	40 - 150 (LCL - UCL)		EPA-625			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-625	09/23/13	10/09/13 02:06	SKC	MS-B2	0.980	BWJ0104

Ground Zero Analysis, Inc.
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Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	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	ND	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
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	ND	ug/L	50	7.2	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	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	09/27/13	09/27/13 12:53	ML	HPCHEM	1	BWI2136

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

Water Analysis (General Chemistry)

BCL Sample ID: 1320490-01 | **Client Sample Name:** Sullins, GW-DIS, 9/20/2013 11:45:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
pH	8.10	pH Units	0.05	0.05	EPA-150.1		S05	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-150.1	09/24/13	09/24/13 18:29	RML	MET-1	1	BWI1825

Ground Zero Analysis, Inc.
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Reported: 10/15/2013 9:42
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: 1320490-02 | **Client Sample Name:** Sullins, SVE-INF Upper, 9/20/2013 11:35:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**850**	**ug/m3**	**1000**	**110**	**EPA-TO-15**	ND	**J,A01**	1
Ethylbenzene	ND	ug/m3	2500	120	EPA-TO-15	ND	A01	1
Toluene	**1500**	**ug/m3**	**1000**	**100**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**1300**	**ug/m3**	**5000**	**400**	**EPA-TO-15**	ND	**J,A01**	1
Total Petroleum Hydrocarbons	**330000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	97.9	%	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	09/20/13	09/21/13 10:18	LHS	MS-A1	500	BWI1151

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

Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWI1833						
Benzene	BWI1833-BLK1	ND	ug/L	0.50	0.083	
Bromodichloromethane	BWI1833-BLK1	ND	ug/L	0.50	0.24	
Bromoform	BWI1833-BLK1	ND	ug/L	0.50	0.26	
Bromomethane	BWI1833-BLK1	ND	ug/L	1.0	0.12	
Carbon tetrachloride	BWI1833-BLK1	ND	ug/L	0.50	0.12	
Chlorobenzene	BWI1833-BLK1	ND	ug/L	0.50	0.063	
Chloroethane	BWI1833-BLK1	ND	ug/L	0.50	0.12	
Chloroform	BWI1833-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BWI1833-BLK1	ND	ug/L	0.50	0.13	
Dibromochloromethane	BWI1833-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichlorobenzene	BWI1833-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BWI1833-BLK1	ND	ug/L	0.50	0.11	
1,4-Dichlorobenzene	BWI1833-BLK1	ND	ug/L	0.50	0.059	
1,1-Dichloroethane	BWI1833-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BWI1833-BLK1	ND	ug/L	0.50	0.092	
1,1-Dichloroethene	BWI1833-BLK1	ND	ug/L	0.50	0.070	
trans-1,2-Dichloroethene	BWI1833-BLK1	ND	ug/L	0.50	0.14	
1,2-Dichloropropane	BWI1833-BLK1	ND	ug/L	0.50	0.13	
cis-1,3-Dichloropropene	BWI1833-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	BWI1833-BLK1	ND	ug/L	0.50	0.071	
Ethylbenzene	BWI1833-BLK1	ND	ug/L	0.50	0.077	
Methylene chloride	BWI1833-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BWI1833-BLK1	ND	ug/L	0.50	0.11	
1,1,2,2-Tetrachloroethane	BWI1833-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BWI1833-BLK1	ND	ug/L	0.50	0.095	
Toluene	BWI1833-BLK1	ND	ug/L	0.50	0.067	
1,1,1-Trichloroethane	BWI1833-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BWI1833-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BWI1833-BLK1	ND	ug/L	0.50	0.072	
Trichlorofluoromethane	BWI1833-BLK1	ND	ug/L	0.50	0.079	
1,1,2-Trichloro-1,2,2-trifluoroethane	BWI1833-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BWI1833-BLK1	ND	ug/L	0.50	0.11	
Total Xylenes	BWI1833-BLK1	ND	ug/L	0.50	0.22	
p- & m-Xylenes	BWI1833-BLK1	ND	ug/L	0.50	0.17	

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Volatile Organic Analysis (EPA Method 624)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWI1833						
o-Xylene	BWI1833-BLK1	ND	ug/L	0.50	0.050	
1,2-Dichloroethane-d4 (Surrogate)	BWI1833-BLK1	98.7	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWI1833-BLK1	98.8	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWI1833-BLK1	94.4	%	80 - 120 (LCL - UCL)		

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Volatile Organic Analysis (EPA Method 624)

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: BWI1833										
Benzene	BWI1833-BS1	LCS	26.170	25.000	ug/L	105		70 - 130		
Bromodichloromethane	BWI1833-BS1	LCS	26.900	25.000	ug/L	108		70 - 130		
Bromoform	BWI1833-BS1	LCS	27.280	25.000	ug/L	109		70 - 130		
Bromomethane	BWI1833-BS1	LCS	24.220	25.000	ug/L	96.9		70 - 130		
Carbon tetrachloride	BWI1833-BS1	LCS	27.480	25.000	ug/L	110		70 - 130		
Chlorobenzene	BWI1833-BS1	LCS	25.840	25.000	ug/L	103		70 - 130		
Chloroethane	BWI1833-BS1	LCS	26.450	25.000	ug/L	106		70 - 130		
Chloroform	BWI1833-BS1	LCS	26.600	25.000	ug/L	106		70 - 130		
Chloromethane	BWI1833-BS1	LCS	26.370	25.000	ug/L	105		70 - 130		
Dibromochloromethane	BWI1833-BS1	LCS	26.420	25.000	ug/L	106		70 - 130		
1,2-Dichlorobenzene	BWI1833-BS1	LCS	24.580	25.000	ug/L	98.3		70 - 130		
1,3-Dichlorobenzene	BWI1833-BS1	LCS	25.330	25.000	ug/L	101		70 - 130		
1,4-Dichlorobenzene	BWI1833-BS1	LCS	25.210	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	BWI1833-BS1	LCS	26.270	25.000	ug/L	105		70 - 130		
1,2-Dichloroethane	BWI1833-BS1	LCS	25.290	25.000	ug/L	101		70 - 130		
1,1-Dichloroethene	BWI1833-BS1	LCS	26.770	25.000	ug/L	107		70 - 130		
trans-1,2-Dichloroethene	BWI1833-BS1	LCS	27.230	25.000	ug/L	109		70 - 130		
1,2-Dichloropropane	BWI1833-BS1	LCS	25.920	25.000	ug/L	104		70 - 130		
cis-1,3-Dichloropropene	BWI1833-BS1	LCS	25.370	25.000	ug/L	101		70 - 130		
trans-1,3-Dichloropropene	BWI1833-BS1	LCS	24.830	25.000	ug/L	99.3		70 - 130		
Ethylbenzene	BWI1833-BS1	LCS	26.090	25.000	ug/L	104		70 - 130		
Methylene chloride	BWI1833-BS1	LCS	25.810	25.000	ug/L	103		70 - 130		
Methyl t-butyl ether	BWI1833-BS1	LCS	26.340	25.000	ug/L	105		70 - 130		
1,1,2,2-Tetrachloroethane	BWI1833-BS1	LCS	25.960	25.000	ug/L	104		70 - 130		
Tetrachloroethene	BWI1833-BS1	LCS	26.970	25.000	ug/L	108		70 - 130		
Toluene	BWI1833-BS1	LCS	26.350	25.000	ug/L	105		70 - 130		
1,1,1-Trichloroethane	BWI1833-BS1	LCS	27.400	25.000	ug/L	110		70 - 130		
1,1,2-Trichloroethane	BWI1833-BS1	LCS	26.520	25.000	ug/L	106		70 - 130		
Trichloroethene	BWI1833-BS1	LCS	25.660	25.000	ug/L	103		70 - 130		
Trichlorofluoromethane	BWI1833-BS1	LCS	27.460	25.000	ug/L	110		70 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	BWI1833-BS1	LCS	27.210	25.000	ug/L	109		70 - 130		
Vinyl chloride	BWI1833-BS1	LCS	27.400	25.000	ug/L	110		70 - 130		
Total Xylenes	BWI1833-BS1	LCS	79.500	75.000	ug/L	106		70 - 130		

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

Volatile Organic Analysis (EPA Method 624)

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: BWI1833										
p- & m-Xylenes	BWI1833-BS1	LCS	53.260	50.000	ug/L	107		70 - 130		
o-Xylene	BWI1833-BS1	LCS	26.240	25.000	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWI1833-BS1	LCS	9.6900	10.000	ug/L	96.9		75 - 125		
Toluene-d8 (Surrogate)	BWI1833-BS1	LCS	9.8200	10.000	ug/L	98.2		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWI1833-BS1	LCS	9.8500	10.000	ug/L	98.5		80 - 120		

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 624)

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: BWI1833	Used client sample: N										
Benzene	MS	1320257-01	ND	26.580	25.000	ug/L		106		70 - 130	
	MSD	1320257-01	ND	27.720	25.000	ug/L	4.2	111	20	70 - 130	
Bromodichloromethane	MS	1320257-01	ND	27.490	25.000	ug/L		110		70 - 130	
	MSD	1320257-01	ND	27.360	25.000	ug/L	0.5	109	20	70 - 130	
Bromoform	MS	1320257-01	ND	26.490	25.000	ug/L		106		70 - 130	
	MSD	1320257-01	ND	27.000	25.000	ug/L	1.9	108	20	70 - 130	
Bromomethane	MS	1320257-01	ND	26.050	25.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	27.150	25.000	ug/L	4.1	109	20	70 - 130	
Carbon tetrachloride	MS	1320257-01	ND	27.000	25.000	ug/L		108		70 - 130	
	MSD	1320257-01	ND	26.580	25.000	ug/L	1.6	106	20	70 - 130	
Chlorobenzene	MS	1320257-01	ND	25.210	25.000	ug/L		101		70 - 130	
	MSD	1320257-01	ND	25.920	25.000	ug/L	2.8	104	20	70 - 130	
Chloroethane	MS	1320257-01	ND	27.530	25.000	ug/L		110		70 - 130	
	MSD	1320257-01	ND	28.470	25.000	ug/L	3.4	114	20	70 - 130	
Chloroform	MS	1320257-01	ND	26.990	25.000	ug/L		108		70 - 130	
	MSD	1320257-01	ND	27.450	25.000	ug/L	1.7	110	20	70 - 130	
Chloromethane	MS	1320257-01	ND	28.360	25.000	ug/L		113		70 - 130	
	MSD	1320257-01	ND	29.720	25.000	ug/L	4.7	119	20	70 - 130	
Dibromochloromethane	MS	1320257-01	ND	26.430	25.000	ug/L		106		70 - 130	
	MSD	1320257-01	ND	25.700	25.000	ug/L	2.8	103	20	70 - 130	
1,2-Dichlorobenzene	MS	1320257-01	ND	24.540	25.000	ug/L		98.2		70 - 130	
	MSD	1320257-01	ND	24.700	25.000	ug/L	0.6	98.8	20	70 - 130	
1,3-Dichlorobenzene	MS	1320257-01	ND	25.280	25.000	ug/L		101		70 - 130	
	MSD	1320257-01	ND	25.500	25.000	ug/L	0.9	102	20	70 - 130	
1,4-Dichlorobenzene	MS	1320257-01	ND	24.830	25.000	ug/L		99.3		70 - 130	
	MSD	1320257-01	ND	25.040	25.000	ug/L	0.8	100	20	70 - 130	
1,1-Dichloroethane	MS	1320257-01	ND	27.180	25.000	ug/L		109		70 - 130	
	MSD	1320257-01	ND	28.320	25.000	ug/L	4.1	113	20	70 - 130	
1,2-Dichloroethane	MS	1320257-01	ND	25.660	25.000	ug/L		103		70 - 130	
	MSD	1320257-01	ND	25.990	25.000	ug/L	1.3	104	20	70 - 130	
1,1-Dichloroethene	MS	1320257-01	ND	27.250	25.000	ug/L		109		70 - 130	
	MSD	1320257-01	ND	27.250	25.000	ug/L	0	109	20	70 - 130	
trans-1,2-Dichloroethene	MS	1320257-01	ND	27.590	25.000	ug/L		110		70 - 130	
	MSD	1320257-01	ND	28.410	25.000	ug/L	2.9	114	20	70 - 130	
1,2-Dichloropropane	MS	1320257-01	ND	26.840	25.000	ug/L		107		70 - 130	
	MSD	1320257-01	ND	27.500	25.000	ug/L	2.4	110	20	70 - 130	

Ground Zero Analysis, Inc.
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Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 624)

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: BWI1833	Used client sample: N										
cis-1,3-Dichloropropene	MS	1320257-01	ND	25.740	25.000	ug/L		103		70 - 130	
	MSD	1320257-01	ND	26.410	25.000	ug/L	2.6	106	20	70 - 130	
trans-1,3-Dichloropropene	MS	1320257-01	ND	25.610	25.000	ug/L		102		70 - 130	
	MSD	1320257-01	ND	25.840	25.000	ug/L	0.9	103	20	70 - 130	
Ethylbenzene	MS	1320257-01	ND	26.000	25.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	26.840	25.000	ug/L	3.2	107	20	70 - 130	
Methylene chloride	MS	1320257-01	ND	26.730	25.000	ug/L		107		70 - 130	
	MSD	1320257-01	ND	27.730	25.000	ug/L	3.7	111	20	70 - 130	
Methyl t-butyl ether	MS	1320257-01	ND	27.240	25.000	ug/L		109		70 - 130	
	MSD	1320257-01	ND	28.440	25.000	ug/L	4.3	114	20	70 - 130	
1,1,2,2-Tetrachloroethane	MS	1320257-01	ND	26.010	25.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	27.240	25.000	ug/L	4.6	109	20	70 - 130	
Tetrachloroethene	MS	1320257-01	ND	27.090	25.000	ug/L		108		70 - 130	
	MSD	1320257-01	ND	26.110	25.000	ug/L	3.7	104	20	70 - 130	
Toluene	MS	1320257-01	ND	26.830	25.000	ug/L		107		70 - 130	
	MSD	1320257-01	ND	26.970	25.000	ug/L	0.5	108	20	70 - 130	
1,1,1-Trichloroethane	MS	1320257-01	ND	27.020	25.000	ug/L		108		70 - 130	
	MSD	1320257-01	ND	27.430	25.000	ug/L	1.5	110	20	70 - 130	
1,1,2-Trichloroethane	MS	1320257-01	ND	26.570	25.000	ug/L		106		70 - 130	
	MSD	1320257-01	ND	27.760	25.000	ug/L	4.4	111	20	70 - 130	
Trichloroethene	MS	1320257-01	ND	26.080	25.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	26.180	25.000	ug/L	0.4	105	20	70 - 130	
Trichlorofluoromethane	MS	1320257-01	ND	27.230	25.000	ug/L		109		70 - 130	
	MSD	1320257-01	ND	26.890	25.000	ug/L	1.3	108	20	70 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	MS	1320257-01	ND	27.550	25.000	ug/L		110		70 - 130	
	MSD	1320257-01	ND	27.450	25.000	ug/L	0.4	110	20	70 - 130	
Vinyl chloride	MS	1320257-01	ND	28.700	25.000	ug/L		115		70 - 130	
	MSD	1320257-01	ND	28.880	25.000	ug/L	0.6	116	20	70 - 130	
Total Xylenes	MS	1320257-01	ND	78.030	75.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	81.050	75.000	ug/L	3.8	108	20	70 - 130	
p- & m-Xylenes	MS	1320257-01	ND	52.020	50.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	54.100	50.000	ug/L	3.9	108	20	70 - 130	
o-Xylene	MS	1320257-01	ND	26.010	25.000	ug/L		104		70 - 130	
	MSD	1320257-01	ND	26.950	25.000	ug/L	3.5	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1320257-01	ND	10.170	10.000	ug/L		102		75 - 125	
	MSD	1320257-01	ND	10.150	10.000	ug/L	0.2	102		75 - 125	

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

Volatile Organic Analysis (EPA Method 624)

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: BWI1833	Used client sample: N										
Toluene-d8 (Surrogate)	MS	1320257-01	ND	10.090	10.000	ug/L		101		80 - 120	
	MSD	1320257-01	ND	9.9300	10.000	ug/L	1.6	99.3		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1320257-01	ND	9.9400	10.000	ug/L		99.4		80 - 120	
	MSD	1320257-01	ND	9.8600	10.000	ug/L	0.8	98.6		80 - 120	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWJ0104						
Acenaphthene	BWJ0104-BLK1	ND	ug/L	2.0	0.24	
Acenaphthylene	BWJ0104-BLK1	ND	ug/L	2.0	0.28	
Aldrin	BWJ0104-BLK1	ND	ug/L	2.0	0.35	
Aniline	BWJ0104-BLK1	ND	ug/L	5.0	0.69	
Anthracene	BWJ0104-BLK1	ND	ug/L	2.0	0.30	
Benzidine	BWJ0104-BLK1	ND	ug/L	20	7.1	
Benzo[a]anthracene	BWJ0104-BLK1	ND	ug/L	2.0	0.38	
Benzo[b]fluoranthene	BWJ0104-BLK1	ND	ug/L	2.0	0.41	
Benzo[k]fluoranthene	BWJ0104-BLK1	ND	ug/L	2.0	0.31	
Benzo[a]pyrene	BWJ0104-BLK1	ND	ug/L	2.0	0.20	
Benzo[g,h,i]perylene	BWJ0104-BLK1	ND	ug/L	2.0	0.22	
Benzoic acid	BWJ0104-BLK1	ND	ug/L	10	5.8	
Benzyl alcohol	BWJ0104-BLK1	ND	ug/L	2.0	0.34	
Benzyl butyl phthalate	BWJ0104-BLK1	ND	ug/L	2.0	0.47	
alpha-BHC	BWJ0104-BLK1	ND	ug/L	2.0	0.27	
beta-BHC	BWJ0104-BLK1	ND	ug/L	2.0	0.27	
delta-BHC	BWJ0104-BLK1	ND	ug/L	2.0	0.30	
gamma-BHC (Lindane)	BWJ0104-BLK1	ND	ug/L	2.0	0.22	
bis(2-Chloroethoxy)methane	BWJ0104-BLK1	ND	ug/L	2.0	0.27	
bis(2-Chloroethyl) ether	BWJ0104-BLK1	ND	ug/L	2.0	0.68	
bis(2-Chloroisopropyl)ether	BWJ0104-BLK1	ND	ug/L	2.0	0.30	
bis(2-Ethylhexyl)phthalate	BWJ0104-BLK1	ND	ug/L	5.0	3.0	
4-Bromophenyl phenyl ether	BWJ0104-BLK1	ND	ug/L	2.0	0.23	
4-Chloroaniline	BWJ0104-BLK1	ND	ug/L	2.0	0.69	
2-Chloronaphthalene	BWJ0104-BLK1	ND	ug/L	2.0	0.34	
4-Chlorophenyl phenyl ether	BWJ0104-BLK1	ND	ug/L	2.0	0.23	
Chrysene	BWJ0104-BLK1	ND	ug/L	2.0	0.63	
4,4'-DDD	BWJ0104-BLK1	ND	ug/L	2.0	0.48	
4,4'-DDE	BWJ0104-BLK1	ND	ug/L	3.0	0.41	
4,4'-DDT	BWJ0104-BLK1	ND	ug/L	2.0	0.43	
Dibenzo[a,h]anthracene	BWJ0104-BLK1	ND	ug/L	3.0	0.26	
Dibenzofuran	BWJ0104-BLK1	ND	ug/L	2.0	0.21	
1,2-Dichlorobenzene	BWJ0104-BLK1	ND	ug/L	2.0	0.37	
1,3-Dichlorobenzene	BWJ0104-BLK1	ND	ug/L	2.0	0.35	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWJ0104						
1,4-Dichlorobenzene	BWJ0104-BLK1	ND	ug/L	2.0	0.31	
3,3-Dichlorobenzidine	BWJ0104-BLK1	ND	ug/L	10	8.2	
Dieldrin	BWJ0104-BLK1	ND	ug/L	3.0	0.41	
Diethyl phthalate	BWJ0104-BLK1	ND	ug/L	2.0	0.33	
Dimethyl phthalate	BWJ0104-BLK1	ND	ug/L	2.0	0.39	
Di-n-butyl phthalate	BWJ0104-BLK1	ND	ug/L	2.0	0.39	
2,4-Dinitrotoluene	BWJ0104-BLK1	ND	ug/L	2.0	0.26	
2,6-Dinitrotoluene	BWJ0104-BLK1	ND	ug/L	2.0	0.41	
Di-n-octyl phthalate	BWJ0104-BLK1	ND	ug/L	2.0	0.46	
1,2-Diphenylhydrazine	BWJ0104-BLK1	ND	ug/L	2.0	0.34	
Endosulfan I	BWJ0104-BLK1	ND	ug/L	10	1.7	
Endosulfan II	BWJ0104-BLK1	ND	ug/L	10	1.2	
Endosulfan sulfate	BWJ0104-BLK1	ND	ug/L	3.0	0.58	
Endrin	BWJ0104-BLK1	ND	ug/L	2.0	1.1	
Endrin aldehyde	BWJ0104-BLK1	ND	ug/L	10	0.52	
Fluoranthene	BWJ0104-BLK1	ND	ug/L	2.0	0.20	
Fluorene	BWJ0104-BLK1	ND	ug/L	2.0	0.28	
Heptachlor	BWJ0104-BLK1	ND	ug/L	2.0	0.32	
Heptachlor epoxide	BWJ0104-BLK1	ND	ug/L	2.0	0.27	
Hexachlorobenzene	BWJ0104-BLK1	ND	ug/L	2.0	0.20	
Hexachlorobutadiene	BWJ0104-BLK1	ND	ug/L	2.0	0.24	
Hexachlorocyclopentadiene	BWJ0104-BLK1	ND	ug/L	2.0	0.30	
Hexachloroethane	BWJ0104-BLK1	ND	ug/L	2.0	0.32	
Indeno[1,2,3-cd]pyrene	BWJ0104-BLK1	ND	ug/L	2.0	0.26	
Isophorone	BWJ0104-BLK1	ND	ug/L	2.0	0.31	
2-Methylnaphthalene	BWJ0104-BLK1	ND	ug/L	2.0	0.28	
Naphthalene	BWJ0104-BLK1	ND	ug/L	2.0	0.21	
2-Naphthylamine	BWJ0104-BLK1	ND	ug/L	20	4.8	
2-Nitroaniline	BWJ0104-BLK1	ND	ug/L	2.0	0.33	
3-Nitroaniline	BWJ0104-BLK1	ND	ug/L	2.0	0.66	
4-Nitroaniline	BWJ0104-BLK1	ND	ug/L	5.0	0.87	
Nitrobenzene	BWJ0104-BLK1	ND	ug/L	2.0	0.26	
N-Nitrosodimethylamine	BWJ0104-BLK1	ND	ug/L	2.0	0.61	
N-Nitrosodi-N-propylamine	BWJ0104-BLK1	ND	ug/L	2.0	1.3	

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWJ0104						
N-Nitrosodiphenylamine	BWJ0104-BLK1	ND	ug/L	2.0	0.44	
Phenanthrene	BWJ0104-BLK1	ND	ug/L	2.0	0.20	
Pyrene	BWJ0104-BLK1	ND	ug/L	2.0	0.26	
1,2,4-Trichlorobenzene	BWJ0104-BLK1	ND	ug/L	2.0	0.27	
4-Chloro-3-methylphenol	BWJ0104-BLK1	ND	ug/L	5.0	0.40	
2-Chlorophenol	BWJ0104-BLK1	ND	ug/L	2.0	0.37	
2,4-Dichlorophenol	BWJ0104-BLK1	ND	ug/L	2.0	0.43	
2,4-Dimethylphenol	BWJ0104-BLK1	ND	ug/L	2.0	0.20	
4,6-Dinitro-2-methylphenol	BWJ0104-BLK1	ND	ug/L	10	0.34	
2,4-Dinitrophenol	BWJ0104-BLK1	ND	ug/L	10	0.20	
2-Methylphenol	BWJ0104-BLK1	ND	ug/L	2.0	1.0	
3- & 4-Methylphenol	BWJ0104-BLK1	ND	ug/L	2.0	1.6	
2-Nitrophenol	BWJ0104-BLK1	ND	ug/L	2.0	0.28	
4-Nitrophenol	BWJ0104-BLK1	ND	ug/L	2.0	0.73	
Pentachlorophenol	BWJ0104-BLK1	ND	ug/L	10	0.79	
Phenol	BWJ0104-BLK1	ND	ug/L	2.0	0.20	
2,4,5-Trichlorophenol	BWJ0104-BLK1	ND	ug/L	5.0	0.31	
2,4,6-Trichlorophenol	BWJ0104-BLK1	ND	ug/L	5.0	0.60	
2-Fluorophenol (Surrogate)	BWJ0104-BLK1	55.4	%	30 - 120 (LCL - UCL)		
Phenol-d5 (Surrogate)	BWJ0104-BLK1	37.8	%	12 - 110 (LCL - UCL)		
Nitrobenzene-d5 (Surrogate)	BWJ0104-BLK1	85.3	%	60 - 130 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BWJ0104-BLK1	89.9	%	55 - 125 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	BWJ0104-BLK1	85.3	%	40 - 150 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BWJ0104-BLK1	92.8	%	40 - 150 (LCL - UCL)		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

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: BWJ0104										
Acenaphthene	BWJ0104-BS1	LCS	49.600	50.000	ug/L	99.2		50 - 120		
1,4-Dichlorobenzene	BWJ0104-BS1	LCS	40.140	50.000	ug/L	80.3		50 - 120		
2,4-Dinitrotoluene	BWJ0104-BS1	LCS	49.690	50.000	ug/L	99.4		50 - 120		
Hexachlorobenzene	BWJ0104-BS1	LCS	50.580	50.000	ug/L	101		60 - 120		
Hexachlorobutadiene	BWJ0104-BS1	LCS	36.660	50.000	ug/L	73.3		40 - 110		
Hexachloroethane	BWJ0104-BS1	LCS	39.670	50.000	ug/L	79.3		40 - 120		
Nitrobenzene	BWJ0104-BS1	LCS	47.950	50.000	ug/L	95.9		50 - 120		
N-Nitrosodi-N-propylamine	BWJ0104-BS1	LCS	37.040	50.000	ug/L	74.1		50 - 120		
Pyrene	BWJ0104-BS1	LCS	53.750	50.000	ug/L	108		40 - 140		
1,2,4-Trichlorobenzene	BWJ0104-BS1	LCS	42.030	50.000	ug/L	84.1		45 - 120		
4-Chloro-3-methylphenol	BWJ0104-BS1	LCS	31.250	50.000	ug/L	62.5		50 - 120		
2-Chlorophenol	BWJ0104-BS1	LCS	25.430	50.000	ug/L	50.9		50 - 120		
2-Methylphenol	BWJ0104-BS1	LCS	24.350	50.000	ug/L	48.7		40 - 110		
3- & 4-Methylphenol	BWJ0104-BS1	LCS	47.990	100.00	ug/L	48.0		40 - 110		
4-Nitrophenol	BWJ0104-BS1	LCS	4.4600	50.000	ug/L	8.9		10 - 110		L01
Pentachlorophenol	BWJ0104-BS1	LCS	27.590	50.000	ug/L	55.2		30 - 120		
Phenol	BWJ0104-BS1	LCS	12.680	50.000	ug/L	25.4		20 - 110		
2,4,6-Trichlorophenol	BWJ0104-BS1	LCS	32.550	50.000	ug/L	65.1		54 - 120		
2-Fluorophenol (Surrogate)	BWJ0104-BS1	LCS	45.560	80.000	ug/L	57.0		30 - 120		
Phenol-d5 (Surrogate)	BWJ0104-BS1	LCS	30.940	80.000	ug/L	38.7		12 - 110		
Nitrobenzene-d5 (Surrogate)	BWJ0104-BS1	LCS	65.720	80.000	ug/L	82.2		60 - 130		
2-Fluorobiphenyl (Surrogate)	BWJ0104-BS1	LCS	71.800	80.000	ug/L	89.8		55 - 125		
2,4,6-Tribromophenol (Surrogate)	BWJ0104-BS1	LCS	70.220	80.000	ug/L	87.8		40 - 150		
p-Terphenyl-d14 (Surrogate)	BWJ0104-BS1	LCS	37.000	40.000	ug/L	92.5		40 - 150		

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

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: BWJ0104	Used client sample: N										
Acenaphthene	MS	1316295-81	ND	48.157	50.000	ug/L		96.3		50 - 120	
	MSD	1316295-81	ND	48.160	50.000	ug/L	0.0	96.3	30	50 - 120	
1,4-Dichlorobenzene	MS	1316295-81	ND	40.984	50.000	ug/L		82.0		47 - 120	
	MSD	1316295-81	ND	40.590	50.000	ug/L	1.0	81.2	30	47 - 120	
2,4-Dinitrotoluene	MS	1316295-81	ND	51.715	50.000	ug/L		103		50 - 130	
	MSD	1316295-81	ND	50.170	50.000	ug/L	3.0	100	30	50 - 130	
Hexachlorobenzene	MS	1316295-81	ND	53.077	50.000	ug/L		106		62 - 120	
	MSD	1316295-81	ND	50.430	50.000	ug/L	5.1	101	30	62 - 120	
Hexachlorobutadiene	MS	1316295-81	ND	38.563	50.000	ug/L		77.1		40 - 110	
	MSD	1316295-81	ND	36.630	50.000	ug/L	5.1	73.3	30	40 - 110	
Hexachloroethane	MS	1316295-81	ND	38.622	50.000	ug/L		77.2		40 - 120	
	MSD	1316295-81	ND	40.210	50.000	ug/L	4.0	80.4	30	40 - 120	
Nitrobenzene	MS	1316295-81	ND	48.098	50.000	ug/L		96.2		50 - 120	
	MSD	1316295-81	ND	45.590	50.000	ug/L	5.4	91.2	30	50 - 120	
N-Nitrosodi-N-propylamine	MS	1316295-81	ND	37.730	50.000	ug/L		75.5		50 - 120	
	MSD	1316295-81	ND	39.000	50.000	ug/L	3.3	78.0	30	50 - 120	
Pyrene	MS	1316295-81	ND	48.500	50.000	ug/L		97.0		40 - 140	
	MSD	1316295-81	ND	52.030	50.000	ug/L	7.0	104	30	40 - 140	
1,2,4-Trichlorobenzene	MS	1316295-81	ND	46.403	50.000	ug/L		92.8		43 - 120	
	MSD	1316295-81	ND	44.100	50.000	ug/L	5.1	88.2	30	43 - 120	
4-Chloro-3-methylphenol	MS	1316295-81	ND	32.908	50.000	ug/L		65.8		50 - 120	
	MSD	1316295-81	ND	31.330	50.000	ug/L	4.9	62.7	30	50 - 120	
2-Chlorophenol	MS	1316295-81	ND	26.774	50.000	ug/L		53.5		50 - 120	
	MSD	1316295-81	ND	26.860	50.000	ug/L	0.3	53.7	30	50 - 120	
2-Methylphenol	MS	1316295-81	ND	23.990	50.000	ug/L		48.0		40 - 110	
	MSD	1316295-81	ND	25.010	50.000	ug/L	4.2	50.0	30	40 - 110	
3- & 4-Methylphenol	MS	1316295-81	ND	49.314	100.00	ug/L		49.3		40 - 110	
	MSD	1316295-81	ND	50.420	100.00	ug/L	2.2	50.4	30	40 - 110	
4-Nitrophenol	MS	1316295-81	ND	4.6942	50.000	ug/L		9.4		10 - 110	Q03
	MSD	1316295-81	ND	4.2600	50.000	ug/L	9.7	8.5	30	10 - 110	Q03
Pentachlorophenol	MS	1316295-81	ND	29.439	50.000	ug/L		58.9		30 - 120	
	MSD	1316295-81	ND	27.640	50.000	ug/L	6.3	55.3	30	30 - 120	
Phenol	MS	1316295-81	ND	12.769	50.000	ug/L		25.5		20 - 110	
	MSD	1316295-81	ND	12.780	50.000	ug/L	0.1	25.6	30	20 - 110	
2,4,6-Trichlorophenol	MS	1316295-81	ND	32.948	50.000	ug/L		65.9		50 - 120	
	MSD	1316295-81	ND	32.010	50.000	ug/L	2.9	64.0	30	50 - 120	

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Base Neutral and Acid Extractables Organic Analysis (EPA Method 625)

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: BWJ0104	Used client sample: N										
2-Fluorophenol (Surrogate)	MS	1316295-81	ND	45.541	80.000	ug/L		56.9		30 - 120	
	MSD	1316295-81	ND	47.270	80.000	ug/L	3.7	59.1		30 - 120	
Phenol-d5 (Surrogate)	MS	1316295-81	ND	31.811	80.000	ug/L		39.8		12 - 110	
	MSD	1316295-81	ND	31.000	80.000	ug/L	2.6	38.8		12 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1316295-81	ND	64.856	80.000	ug/L		81.1		60 - 130	
	MSD	1316295-81	ND	65.060	80.000	ug/L	0.3	81.3		60 - 130	
2-Fluorobiphenyl (Surrogate)	MS	1316295-81	ND	71.883	80.000	ug/L		89.9		55 - 125	
	MSD	1316295-81	ND	70.930	80.000	ug/L	1.3	88.7		55 - 125	
2,4,6-Tribromophenol (Surrogate)	MS	1316295-81	ND	74.794	80.000	ug/L		93.5		40 - 150	
	MSD	1316295-81	ND	69.990	80.000	ug/L	6.6	87.5		40 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1316295-81	ND	33.457	40.000	ug/L		83.6		40 - 150	
	MSD	1316295-81	ND	35.840	40.000	ug/L	6.9	89.6		40 - 150	

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWI2136						
Benzene	BWI2136-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BWI2136-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BWI2136-BLK1	ND	ug/L	0.50	0.11	
Toluene	BWI2136-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BWI2136-BLK1	ND	ug/L	1.0	0.36	
t-Amyl Methyl ether	BWI2136-BLK1	ND	ug/L	0.50	0.25	
t-Butyl alcohol	BWI2136-BLK1	ND	ug/L	10	9.4	
Diisopropyl ether	BWI2136-BLK1	ND	ug/L	0.50	0.23	
Ethyl t-butyl ether	BWI2136-BLK1	ND	ug/L	0.50	0.18	
Total Purgeable Petroleum Hydrocarbons	BWI2136-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	BWI2136-BLK1	99.3	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWI2136-BLK1	98.7	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWI2136-BLK1	98.4	%	80 - 120 (LCL - UCL)		

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWI2136										
Benzene	BWI2136-BS1	LCS	30.200	25.000	ug/L	121		70 - 130		
Toluene	BWI2136-BS1	LCS	30.680	25.000	ug/L	123		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWI2136-BS1	LCS	9.7500	10.000	ug/L	97.5		75 - 125		
Toluene-d8 (Surrogate)	BWI2136-BS1	LCS	10.070	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWI2136-BS1	LCS	9.5900	10.000	ug/L	95.9		80 - 120		

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWI2136	Used client sample: N										
Benzene	MS	1320257-29	ND	23.590	25.000	ug/L		94.4		70 - 130	
	MSD	1320257-29	ND	28.470	25.000	ug/L	18.7	114	20	70 - 130	
Toluene	MS	1320257-29	ND	24.360	25.000	ug/L		97.4		70 - 130	
	MSD	1320257-29	ND	29.390	25.000	ug/L	18.7	118	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1320257-29	ND	9.3200	10.000	ug/L		93.2		75 - 125	
	MSD	1320257-29	ND	9.3200	10.000	ug/L	0	93.2		75 - 125	
Toluene-d8 (Surrogate)	MS	1320257-29	ND	10.150	10.000	ug/L		102		80 - 120	
	MSD	1320257-29	ND	10.020	10.000	ug/L	1.3	100		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1320257-29	ND	9.6000	10.000	ug/L		96.0		80 - 120	
	MSD	1320257-29	ND	9.7700	10.000	ug/L	1.8	97.7		80 - 120	

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Water Analysis (General Chemistry)

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: BWI1825										
pH	BWI1825-BS2	LCS	7.0500	7.0000	pH Units	101		95 - 105		

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

Reported: 10/15/2013 9:42
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Water Analysis (General Chemistry)

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: BWI1825	Used client sample: N										
pH	DUP	1320449-01	7.6100	7.6400		pH Units	0.4		20		

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

Reported: 10/15/2013 9:42
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: BWI1151						
Benzene	BWI1151-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWI1151-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWI1151-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWI1151-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWI1151-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	BWI1151-BLK1	114	%	70 - 130 (LCL - UCL)		

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

Reported: 10/15/2013 9:42
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: BWI1151										
Benzene	BWI1151-BS1	LCS	24.111	31.948	ug/m3	75.5		70 - 130		
	BWI1151-BSD1	LCSD	24.702	31.948	ug/m3	77.3	2.4	70 - 130	30	
Ethylbenzene	BWI1151-BS1	LCS	36.339	43.421	ug/m3	83.7		70 - 130		
	BWI1151-BSD1	LCSD	37.590	43.421	ug/m3	86.6	3.4	70 - 130	30	
Toluene	BWI1151-BS1	LCS	30.811	37.684	ug/m3	81.8		70 - 130		
	BWI1151-BSD1	LCSD	30.701	37.684	ug/m3	81.5	0.4	70 - 130	30	
Total Xylenes	BWI1151-BS1	LCS	123.52	130.26	ug/m3	94.8		70 - 130		
	BWI1151-BSD1	LCSD	125.65	130.26	ug/m3	96.5	1.7	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWI1151-BS1	LCS	63.550	71.574	ug/m3	88.8		70 - 130		
	BWI1151-BSD1	LCSD	60.036	71.574	ug/m3	83.9	5.7	70 - 130		

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

Reported: 10/15/2013 9:42
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.
L01	The Laboratory Control Sample Water (LCSW) recovery is not within laboratory established control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S05	The sample holding time was exceeded.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 10/04/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1321056
Invoice ID:	B156765

Enclosed are the results of analyses for samples received by the laboratory on 9/30/2013. 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

13. 21056

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): AP, 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 (8015/8021)
9-27-13	1210		GW-INF	6	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: KIQ

DISTRIBUTION: EDF ☐ FAX ☐ SUB-OUT ☐

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	9-30-13	1220
Received / Relinquished by: Ross Dickey	Ross Dickey	BC LABS	9.30.13	1220
Received / Relinquished by: Ross Dickey	Ross Dickey	BC LABS	9-30-13	1720

Please return cooler / ice chest to GZA / Geological Technics

REL 9-30-13 22:40 REC Stacy Bogan 9-30-13 1720
REL Stacy Bogan 9-30-13 1830 REC Rec'd OAS 2240 9.30.13

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 1321056 Page 1 of 2

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949
4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1321056 Page 2 of 2

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

Submission #: 13-21056

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: 0.97 Container: Vial Thermometer ID: 207 Date/Time 9.30.15 2240

Temperature: (A) 1.6 °C / (C) 1.1 °C Analyst Init: SG

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
T GENERAL MINERAL/ GENERAL										
T PE UNPRESERVED										
T INORGANIC CHEMICAL METALS										
T INORGANIC CHEMICAL METALS										
T CYANIDE										
T NITROGEN FORMS										
T TOTAL SULFIDE										
oz. NITRATE / NITRITE										
T TOTAL ORGANIC CARBON										
T TOX										
T CHEMICAL OXYGEN DEMAND										
A PHENOLICS										
ml VOA VIAL TRAVEL BLANK										
ml VOA VIAL	A (6)	( )	( )	( )	( )	( )	( )	( )	( )	( )
T EPA 413.1, 413.2, 418.1										
T ODOR										
ADIOLOGICAL										
CTERIOLOGICAL										
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										

Comments:

Sample Numbering Completed By: MD Date/Time: 9/30/15 2340

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

Reported: 10/04/2013 10:58
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1321056-01	**COC Number:**	---	**Receive Date:**	09/30/2013 22:40
	Project Number:	Sullins	**Sampling Date:**	09/27/2013 12:10
	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: 10/04/2013 10:58
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1321056-01 | **Client Sample Name:** Sullins, GW-INF, 9/27/2013 12:10:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**94**	**ug/L**	**0.30**	**0.040**	**EPA-8021B**	ND		1
Toluene	**30**	**ug/L**	**0.30**	**0.046**	**EPA-8021B**	ND		1
Ethylbenzene	**12**	**ug/L**	**0.30**	**0.042**	**EPA-8021B**	ND		1
Total Xylenes	**120**	**ug/L**	**0.60**	**0.14**	**EPA-8021B**	ND		1
Gasoline Range Organics (C4 - C12)	**1300**	**ug/L**	**50**	**5.0**	**Luft**	ND		2
a,a,a-Trifluorotoluene (PID Surrogate)	105	%	70 - 130 (LCL - UCL)		EPA-8021B			1
a,a,a-Trifluorotoluene (FID Surrogate)	126	%	70 - 130 (LCL - UCL)		Luft			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8021B	10/03/13	10/03/13 16:27	jjh	GC-V9	1	BWJ0320
2	Luft	10/03/13	10/03/13 16:27	jjh	GC-V9	1	BWJ0320

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

Reported: 10/04/2013 10:58
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWJ0320						
Benzene	BWJ0320-BLK1	ND	ug/L	0.30	0.040	
Toluene	BWJ0320-BLK1	ND	ug/L	0.30	0.046	
Ethylbenzene	BWJ0320-BLK1	ND	ug/L	0.30	0.042	
Total Xylenes	BWJ0320-BLK1	ND	ug/L	0.60	0.14	
Gasoline Range Organics (C4 - C12)	BWJ0320-BLK1	ND	ug/L	50	5.0	
a,a,a-Trifluorotoluene (PID Surrogate)	BWJ0320-BLK1	80.6	%	70 - 130 (LCL - UCL)		
a,a,a-Trifluorotoluene (FID Surrogate)	BWJ0320-BLK1	82.5	%	70 - 130 (LCL - UCL)		

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

Reported: 10/04/2013 10:58
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWJ0320										
Benzene	BWJ0320-BS1	LCS	35.327	40.000	ug/L	88.3		85 - 115		
Toluene	BWJ0320-BS1	LCS	35.856	40.000	ug/L	89.6		85 - 115		
Ethylbenzene	BWJ0320-BS1	LCS	35.198	40.000	ug/L	88.0		85 - 115		
Total Xylenes	BWJ0320-BS1	LCS	104.61	120.00	ug/L	87.2		85 - 115		
Gasoline Range Organics (C4 - C12)	BWJ0320-BS1	LCS	915.26	1000.0	ug/L	91.5		85 - 115		
a,a,a-Trifluorotoluene (PID Surrogate)	BWJ0320-BS1	LCS	37.215	40.000	ug/L	93.0		70 - 130		
a,a,a-Trifluorotoluene (FID Surrogate)	BWJ0320-BS1	LCS	35.229	40.000	ug/L	88.1		70 - 130		

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

Reported: 10/04/2013 10:58
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWJ0320	Used client sample: N										
Benzene	MS	1320257-49	ND	34.771	40.000	ug/L		86.9		70 - 130	
	MSD	1320257-49	ND	34.908	40.000	ug/L	0.4	87.3	20	70 - 130	
Toluene	MS	1320257-49	ND	35.506	40.000	ug/L		88.8		70 - 130	
	MSD	1320257-49	ND	35.492	40.000	ug/L	0.0	88.7	20	70 - 130	
Ethylbenzene	MS	1320257-49	ND	34.849	40.000	ug/L		87.1		70 - 130	
	MSD	1320257-49	ND	34.763	40.000	ug/L	0.2	86.9	20	70 - 130	
Total Xylenes	MS	1320257-49	ND	104.76	120.00	ug/L		87.3		70 - 130	
	MSD	1320257-49	ND	104.38	120.00	ug/L	0.4	87.0	20	70 - 130	
Gasoline Range Organics (C4 - C12)	MS	1320257-49	ND	891.17	1000.0	ug/L		89.1		70 - 130	
	MSD	1320257-49	ND	872.40	1000.0	ug/L	2.1	87.2	20	70 - 130	
a,a,a-Trifluorotoluene (PID Surrogate)	MS	1320257-49	ND	36.972	40.000	ug/L		92.4		70 - 130	
	MSD	1320257-49	ND	36.749	40.000	ug/L	0.6	91.9		70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1320257-49	ND	34.861	40.000	ug/L		87.2		70 - 130	
	MSD	1320257-49	ND	34.582	40.000	ug/L	0.8	86.5		70 - 130	

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

Reported: 10/04/2013 10:58
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

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 10/21/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1322355
Invoice ID:	B158036

Enclosed are the results of analyses for samples received by the laboratory on 10/11/2013. 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

Chain of Custody

13-22355

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 (8260)
1	10-11-13	1125		GW-INF	6	W	HCL		X
2	↓	1135		SVE-INF LOWER	1	G	NONE	X	
3	↓	1235		SVE-INF UPPER	1	G	NONE	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: SAS

DISTRIBUTION: JRE LAS SUB OUT ☐

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	10-11-13	1235
Received / Relinquished by:	Ross Dickey	BCLABS	10-11-13	1235
Received / Relinquished by:	Ross Dickey			

Please return cooler / ice chest to GZA / Geological Technics

REC- 10-11-13 14:40 REL- 10-11-13 17:30 REC: SAS 10-11-13 1730

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 1322355 Page 1 of 3

Chain of Custody and Cooler Receipt Form for 1322355 Page 2 of 3

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

Submission #: 13-22355

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 10/11/13 1730

Temperature: (A) 3.5 °C / (C) 3.6 °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										
PIA 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: M Date/Time: 10/11/13 1815

A = Actual / C = Corrected

Chain of Custody and Cooler Receipt Form for 1322355 Page 3 of 3

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

Submission #: 13-22355

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 5/1/13 1730

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

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	A							
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:

Sample Numbering Completed By: JT Date/Time: 5/1/13 1815

A = Actual / C = Corrected

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

Reported: 10/21/2013 15:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1322355-01	**COC Number:**	---	**Receive Date:** 10/11/2013 17:30
	Project Number:	Sullins	**Sampling Date:** 10/11/2013 11:25
	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:
1322355-02	**COC Number:**	---	**Receive Date:** 10/11/2013 17:30
	Project Number:	Sullins	**Sampling Date:** 10/11/2013 11:35
	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: AX
			Sample QC Type (SACode): CS
			Cooler ID:
1322355-03	**COC Number:**	---	**Receive Date:** 10/11/2013 17:30
	Project Number:	Sullins	**Sampling Date:** 10/11/2013 12:35
	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: AX
			Sample QC Type (SACode): CS
			Cooler ID:

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

Reported: 10/21/2013 15:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1322355-01 | **Client Sample Name:** Sullins, GW-INF, 10/11/2013 11:25:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**99**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**24**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Toluene	**18**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**88**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**67**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		1
o-Xylene	**22**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**870**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.1	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/17/13	10/17/13 11:54	EAR	MS-V10	1	BWJ1128

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

Reported: 10/21/2013 15:55
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: 1322355-02 | **Client Sample Name:** Sullins, SVE-INF LOWER, 10/11/2013 11:35:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**12000**	**ug/m3**	**400**	**44**	**EPA-TO-15**	ND	**A01**	1
Ethylbenzene	**3100**	**ug/m3**	**1000**	**46**	**EPA-TO-15**	ND	**A01**	1
Toluene	**2700**	**ug/m3**	**400**	**40**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**8600**	**ug/m3**	**2000**	**160**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**99000**	**ug/m3**	**40000**	**7800**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	115	%	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	10/11/13	10/12/13 09:25	LHS	MS-A1	200	BWJ0710

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

Reported: 10/21/2013 15:55
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: 1322355-03 | **Client Sample Name:** Sullins, SVE-INF UPPER, 10/11/2013 12:35:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**2400**	**ug/m3**	**2000**	**220**	**EPA-TO-15**	ND	**A01**	1
Ethylbenzene	**4000**	**ug/m3**	**5000**	**230**	**EPA-TO-15**	ND	**J,A01**	1
Toluene	**1600**	**ug/m3**	**2000**	**200**	**EPA-TO-15**	ND	**J,A01**	1
Total Xylenes	**14000**	**ug/m3**	**10000**	**800**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**91000**	**ug/m3**	**200000**	**39000**	**EPA-TO-15**	ND	**J,A01**	1
4-Bromofluorobenzene (Surrogate)	111	%	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	10/11/13	10/12/13 09:55	LHS	MS-A1	1000	BWJ0710

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

Reported: 10/21/2013 15:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWJ1128						
Benzene	BWJ1128-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BWJ1128-BLK1	ND	ug/L	0.50	0.098	
Toluene	BWJ1128-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BWJ1128-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BWJ1128-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BWJ1128-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BWJ1128-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	BWJ1128-BLK1	102	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWJ1128-BLK1	98.6	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWJ1128-BLK1	95.4	%	80 - 120 (LCL - UCL)		

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

Reported: 10/21/2013 15:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWJ1128										
Benzene	BWJ1128-BS1	LCS	30.380	25.000	ug/L	122		70 - 130		
Toluene	BWJ1128-BS1	LCS	28.390	25.000	ug/L	114		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWJ1128-BS1	LCS	10.280	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	BWJ1128-BS1	LCS	10.120	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWJ1128-BS1	LCS	10.580	10.000	ug/L	106		80 - 120		

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

Reported: 10/21/2013 15:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWJ1128	Used client sample: N										
Benzene	MS	1320257-74	ND	29.820	25.000	ug/L		119		70 - 130	
	MSD	1320257-74	ND	28.360	25.000	ug/L	5.0	113	20	70 - 130	
Toluene	MS	1320257-74	ND	28.120	25.000	ug/L		112		70 - 130	
	MSD	1320257-74	ND	26.950	25.000	ug/L	4.2	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1320257-74	ND	9.9800	10.000	ug/L		99.8		75 - 125	
	MSD	1320257-74	ND	9.5600	10.000	ug/L	4.3	95.6		75 - 125	
Toluene-d8 (Surrogate)	MS	1320257-74	ND	9.7900	10.000	ug/L		97.9		80 - 120	
	MSD	1320257-74	ND	9.7800	10.000	ug/L	0.1	97.8		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1320257-74	ND	10.350	10.000	ug/L		104		80 - 120	
	MSD	1320257-74	ND	10.050	10.000	ug/L	2.9	100		80 - 120	

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

Reported: 10/21/2013 15:55
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: BWJ0710						
Benzene	BWJ0710-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWJ0710-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWJ0710-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWJ0710-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWJ0710-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	BWJ0710-BLK1	111	%	70 - 130 (LCL - UCL)		

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

Reported: 10/21/2013 15:55
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: BWJ0710										
Benzene	BWJ0710-BS1	LCS	24.283	31.948	ug/m3	76.0		70 - 130		
	BWJ0710-BSD1	LCSD	26.791	31.948	ug/m3	83.9	9.8	70 - 130	30	
Ethylbenzene	BWJ0710-BS1	LCS	39.123	43.421	ug/m3	90.1		70 - 130		
	BWJ0710-BSD1	LCSD	37.538	43.421	ug/m3	86.4	4.1	70 - 130	30	
Toluene	BWJ0710-BS1	LCS	34.146	37.684	ug/m3	90.6		70 - 130		
	BWJ0710-BSD1	LCSD	33.656	37.684	ug/m3	89.3	1.4	70 - 130	30	
Total Xylenes	BWJ0710-BS1	LCS	121.59	130.26	ug/m3	93.3		70 - 130		
	BWJ0710-BSD1	LCSD	116.35	130.26	ug/m3	89.3	4.4	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWJ0710-BS1	LCS	69.878	71.574	ug/m3	97.6		70 - 130		
	BWJ0710-BSD1	LCSD	67.945	71.574	ug/m3	94.9	2.8	70 - 130		

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

Reported: 10/21/2013 15:55
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: 10/29/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1323037
Invoice ID:	B158688

Enclosed are the results of analyses for samples received by the laboratory on 10/22/2013. 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

Chain of Custody

#13-23037

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 (8260)
1	10-22-13	1135		SVE-INF UPPER	1	G	—	X	
2	10-22-13	1250		SVE-INF LOWER	1	G	—	X	
3	10-22-13	1240		GW-INF	6	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: KQ

DISTRIBUTION: GIS, JTC, SUB-OUT ☐

	Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:		ANDREW DORN	BC LAB	10-22-13	1600
Received / Relinquished by:	Ross Dickey	ROSS DICKEY	BC LABS	10.22.13	1600
Received / Relinquished by:	Ross Dickey	ROSS DICKEY	BC LABS	10.22.13	1700

Please return cooler / ice chest to GZA / Geological Technics

REL [illegible] 10-22-13 21:35 REC Mary Boeken 10-22-13 1700
REL Mary Boeken 10-22-13 1830 REC [illegible] 10-22-13 18:30 KM 10-22-13 2135

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 1323037 Page 2 of 3

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

Submission #: 13-23037

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: 95 Container: Tedlar Thermometer ID: 6

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

Date/Time 10-22-13 2135

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										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: SAS Date/Time: 10-22-13 2253

Chain of Custody and Cooler Receipt Form for 1323037 Page 3 of 3

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

ubmission #: 13-23037

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

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

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

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 10/22/13 2135

Temperature: (A) 1.9 °C / (C) 2.0 °C Analyst Init TT

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
GENERAL MINERAL/ GENERAL										
PE UNPRESERVED										
INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS										
CYANIDE										
NITROGEN FORMS										
TOTAL SULFIDE										
NITRATE / NITRITE										
TOTAL ORGANIC CARBON										
TOX										
CHEMICAL OXYGEN DEMAND										
PHENOLICS										
1 VOA VIAL TRAVEL BLANK										
1 VOA VIAL			A (6)							
EPA 413.1, 413.2, 418.1										
ODOR										
MOLOGICAL										
TERIOLOGICAL										
1 VOA VIAL- 504										
EPA 508/608/8080										
EPA 515.1/8150										
EPA 525										
EPA 525 TRAVEL BLANK										
d EPA 547										
d EPA 531.1										
EPA 548										
EPA 549										
EPA 632										
PA 8015M										
MBER										
JAR										
L JAR										
SLEEVE										
VIAL										
TIC BAG										
OUS IRON										
ORE										
ET KIT										
ua Canister										

Notes: _____

e Numbering Completed By: SAS Date/Time: 10.22.13 2135

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

Reported: 10/29/2013 12:24
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1323037-01	**COC Number:**	---	**Receive Date:** 10/22/2013 21:35
	Project Number:	Sullins	**Sampling Date:** 10/22/2013 11:35
	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: AX
			Sample QC Type (SACode): CS
			Cooler ID:
1323037-02	**COC Number:**	---	**Receive Date:** 10/22/2013 21:35
	Project Number:	Sullins	**Sampling Date:** 10/22/2013 12:50
	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: AX
			Sample QC Type (SACode): CS
			Cooler ID:
1323037-03	**COC Number:**	---	**Receive Date:** 10/22/2013 21:35
	Project Number:	Sullins	**Sampling Date:** 10/22/2013 12:40
	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: 10/29/2013 12:24
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: 1323037-01 | **Client Sample Name:** Sullins, SVE-INF-Upper, 10/22/2013 11:35:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**1500**	**ug/m3**	**1000**	**110**	**EPA-TO-15**	ND	**A01**	1
Ethylbenzene	ND	ug/m3	2500	120	EPA-TO-15	ND	A01	1
Toluene	**3700**	**ug/m3**	**1000**	**100**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**2600**	**ug/m3**	**5000**	**400**	**EPA-TO-15**	ND	**J,A01**	1
Total Petroleum Hydrocarbons	**210000**	**ug/m3**	**100000**	**20000**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	113	%	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	10/22/13	10/23/13 14:50	LHS	MS-A1	500	BWJ1646

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

Reported: 10/29/2013 12:24
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: 1323037-02 | **Client Sample Name:** Sullins, SVE-INF-Lower, 10/22/2013 12:50:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	29000	ug/m3	2000	220	EPA-TO-15	ND	A01	1
Ethylbenzene	870	ug/m3	5000	230	EPA-TO-15	ND	J,A01	1
Toluene	7100	ug/m3	2000	200	EPA-TO-15	ND	A01	1
Total Xylenes	4200	ug/m3	10000	800	EPA-TO-15	ND	J,A01	1
Total Petroleum Hydrocarbons	410000	ug/m3	200000	39000	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	117	%	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	10/22/13	10/24/13 12:11	LHS	MS-A1	1000	BWJ1646

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

Reported: 10/29/2013 12:24
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1323037-03 | **Client Sample Name:** Sullins, GW-INF, 10/22/2013 12:40:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**130**	**ug/L**	**2.5**	**0.42**	**EPA-8260B**	ND	A01	1
Ethylbenzene	**30**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		2
Toluene	**62**	**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	**150**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**65**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**1700**	**ug/L**	**250**	**36**	**Luft-GC/MS**	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	96.6	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	99.3	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	109	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	96.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	106	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	10/24/13	10/24/13 15:22	EAR	MS-V12	5	BWJ1848
2	EPA-8260B	10/23/13	10/23/13 15:42	EAR	MS-V12	1	BWJ1848

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

Reported: 10/29/2013 12:24
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWJ1848						
Benzene	BWJ1848-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BWJ1848-BLK1	ND	ug/L	0.50	0.098	
Toluene	BWJ1848-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BWJ1848-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BWJ1848-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BWJ1848-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BWJ1848-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	BWJ1848-BLK1	100	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWJ1848-BLK1	101	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWJ1848-BLK1	99.9	%	80 - 120 (LCL - UCL)		

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

Reported: 10/29/2013 12:24
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWJ1848										
Benzene	BWJ1848-BS1	LCS	22.990	25.000	ug/L	92.0		70 - 130		
Toluene	BWJ1848-BS1	LCS	23.400	25.000	ug/L	93.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWJ1848-BS1	LCS	9.7700	10.000	ug/L	97.7		75 - 125		
Toluene-d8 (Surrogate)	BWJ1848-BS1	LCS	10.170	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWJ1848-BS1	LCS	10.070	10.000	ug/L	101		80 - 120		

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

Reported: 10/29/2013 12:24
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWJ1848	Used client sample: N										
Benzene	MS	1320257-95	ND	24.730	25.000	ug/L		98.9		70 - 130	
	MSD	1320257-95	ND	25.380	25.000	ug/L	2.6	102	20	70 - 130	
Toluene	MS	1320257-95	ND	25.240	25.000	ug/L		101		70 - 130	
	MSD	1320257-95	ND	25.070	25.000	ug/L	0.7	100	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1320257-95	ND	10.300	10.000	ug/L		103		75 - 125	
	MSD	1320257-95	ND	9.6200	10.000	ug/L	6.8	96.2		75 - 125	
Toluene-d8 (Surrogate)	MS	1320257-95	ND	10.220	10.000	ug/L		102		80 - 120	
	MSD	1320257-95	ND	9.7500	10.000	ug/L	4.7	97.5		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1320257-95	ND	10.290	10.000	ug/L		103		80 - 120	
	MSD	1320257-95	ND	10.320	10.000	ug/L	0.3	103		80 - 120	

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

Reported: 10/29/2013 12:24
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: BWJ1646						
Benzene	BWJ1646-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWJ1646-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWJ1646-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWJ1646-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWJ1646-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	BWJ1646-BLK1	113	%	70 - 130 (LCL - UCL)		

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

Reported: 10/29/2013 12:24
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: BWJ1646										
Benzene	BWJ1646-BS1	LCS	26.909	31.948	ug/m3	84.2		70 - 130		
	BWJ1646-BSD1	LCSD	27.430	31.948	ug/m3	85.9	1.9	70 - 130	30	
Ethylbenzene	BWJ1646-BS1	LCS	40.707	43.421	ug/m3	93.8		70 - 130		
	BWJ1646-BSD1	LCSD	40.612	43.421	ug/m3	93.5	0.2	70 - 130	30	
Toluene	BWJ1646-BS1	LCS	32.838	37.684	ug/m3	87.1		70 - 130		
	BWJ1646-BSD1	LCSD	32.736	37.684	ug/m3	86.9	0.3	70 - 130	30	
Total Xylenes	BWJ1646-BS1	LCS	125.78	130.26	ug/m3	96.6		70 - 130		
	BWJ1646-BSD1	LCSD	125.47	130.26	ug/m3	96.3	0.2	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWJ1646-BS1	LCS	80.148	71.574	ug/m3	112		70 - 130		
	BWJ1646-BSD1	LCSD	81.344	71.574	ug/m3	114	1.5	70 - 130		

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

Reported: 10/29/2013 12:24
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: 11/15/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1324271
Invoice ID:	B160018

Enclosed are the results of analyses for samples received by the laboratory on 11/6/2013. 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

13-24271

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	Report 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)	TPH-G + BTEX (8260)
1	11-6-2013	1325		SVE-INF LOWER	1	G	NONE	X	
2	"	1300	"	GW-INF	6	W	HCL		X
3	↓	1405	"	SVE-INF UPPER	1	G	NONE	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: KJO

DISTRIBUTION: ~~LHS~~ JKC

SUB-OUT ☐

	Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:		ANDREW DORN	GZA	11-6-13	1445
Received / Relinquished by:		GARY BOGAN	BCLAB	11-6-13	1445
Received / Relinquished by:					

Please return cooler / ice chest to GZA / Geological Technics

REL [signature] 11-6-13 12:45 REL Gary Bogan 11-6-13 1915 REC-[signature]O. KC 11-6-13 2245

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 132427 Page 1 of 3

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949
4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1324271 Page 2 of 3

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

Submission #: 13-24271

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 ☐ 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: Ø Container: Tedlar Thermometer ID: Ø Date/Time 11/6/13 2245

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 TE 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										
PLA 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										
PCR VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____

Sample Numbering Completed By: SAS Date/Time: 11/6/13 2325

Chain of Custody and Cooler Receipt Form for 1324271 Page 3 of 3

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

ıbmission #: 13-24271

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

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

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

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) 1.6 °C / (C) 1.7 °C	Date/Time 11/6/13 2245 Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
GENERAL MINERAL/ GENERAL										
E UNPRESERVED										
INORGANIC CHEMICAL METALS										
NORGANIC CHEMICAL METALS										
CYANIDE										
NITROGEN FORMS										
TOTAL SULFIDE										
NITRATE / NITRITE										
TOTAL ORGANIC CARBON										
TOX										
CHEMICAL OXYGEN DEMAND										
PHENOLICS										
l VOA VIAL TRAVEL BLANK										
l VOA VIAL		A 16								
EPA 413.1, 413.2, 418.1										
ODOR										
OLOGICAL										
CTERIOLOGICAL										
l VOA VIAL- 504										
EPA 508/608/8080										
EPA 515.1/8150										
EPA 525										
EPA 525 TRAVEL BLANK										
l EPA 547										
l EPA 531.1										
EPA 548										
EPA 549										
EPA 632										
EPA 8015M										
AMBER										
L JAR										
Z JAR										
L SLEEVE										
VIAL										
STIC BAG										
ROUS IRON										
ORE										
ART KIT										
ma Canister										

ments:

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

Reported: 11/15/2013 10:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1324271-01	**COC Number:**	---	**Receive Date:**	11/06/2013 22:45
	Project Number:	Sullins	**Sampling Date:**	11/06/2013 13:25
	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:			
1324271-02	**COC Number:**	---	**Receive Date:**	11/06/2013 22:45
	Project Number:	Sullins	**Sampling Date:**	11/06/2013 13:00
	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: AX			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1324271-03	**COC Number:**	---	**Receive Date:**	11/06/2013 22:45
	Project Number:	Sullins	**Sampling Date:**	11/06/2013 14:05
	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: AX			
	Sample QC Type (SACode): CS			
	Cooler ID:			

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

Reported: 11/15/2013 10:55
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: 1324271-01 | **Client Sample Name:** Sullins, SVE-INF- Lower, 11/6/2013 1:25:00PM, 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
Ethylbenzene	7700	ug/m3	2500	120	EPA-TO-15	ND	A01	1
Toluene	4500	ug/m3	1000	100	EPA-TO-15	ND	A01	1
Total Xylenes	22000	ug/m3	5000	400	EPA-TO-15	ND	A01	1
Total Petroleum Hydrocarbons	120000	ug/m3	100000	20000	EPA-TO-15	ND	A01	1
4-Bromofluorobenzene (Surrogate)	125	%	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	11/06/13	11/07/13 11:38	LHS	MS-A1	500	BWK0074

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

Reported: 11/15/2013 10:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1324271-02 | **Client Sample Name:** Sullins, GW-INF, 11/6/2013 1:00:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**120**	**ug/L**	**1.0**	**0.17**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**35**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		2
Toluene	**22**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**140**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**100**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**42**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**1400**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		2
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)	97.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.7	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	103	%	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	11/11/13	11/13/13 18:13	EAR	MS-V12	2	BWK0688
2	EPA-8260B	11/11/13	11/12/13 17:58	EAR	MS-V12	1	BWK0688

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

Reported: 11/15/2013 10:55
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: 1324271-03 | **Client Sample Name:** Sullins, SVE-INF Upper, 11/6/2013 2:05:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**770**	**ug/m3**	**400**	**44**	**EPA-TO-15**	ND	**A01**	1
Ethylbenzene	**3700**	**ug/m3**	**1000**	**46**	**EPA-TO-15**	ND	**A01**	1
Toluene	**1200**	**ug/m3**	**400**	**40**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**12000**	**ug/m3**	**2000**	**160**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**44000**	**ug/m3**	**40000**	**7800**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	126	%	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	11/06/13	11/07/13 10:36	LHS	MS-A1	200	BWK0074

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

Reported: 11/15/2013 10:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWK0688						
Benzene	BWK0688-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BWK0688-BLK1	ND	ug/L	0.50	0.098	
Toluene	BWK0688-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BWK0688-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BWK0688-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BWK0688-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BWK0688-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BWK0688-BLK1**	**98.3**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWK0688-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWK0688-BLK1**	**94.8**	%	**80 - 120 (LCL - UCL)**		

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

Reported: 11/15/2013 10:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWK0688										
Benzene	BWK0688-BS1	LCS	25.270	25.000	ug/L	101		70 - 130		
Toluene	BWK0688-BS1	LCS	25.160	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWK0688-BS1	LCS	9.8500	10.000	ug/L	98.5		75 - 125		
Toluene-d8 (Surrogate)	BWK0688-BS1	LCS	9.7200	10.000	ug/L	97.2		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWK0688-BS1	LCS	10.330	10.000	ug/L	103		80 - 120		

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

Reported: 11/15/2013 10:55
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWK0688	Used client sample: N										
Benzene	MS	1323260-59	ND	30.250	25.000	ug/L		121		70 - 130	
	MSD	1323260-59	ND	26.940	25.000	ug/L	11.6	108	20	70 - 130	
Toluene	MS	1323260-59	ND	27.020	25.000	ug/L		108		70 - 130	
	MSD	1323260-59	ND	26.780	25.000	ug/L	0.9	107	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1323260-59	ND	10.720	10.000	ug/L		107		75 - 125	
	MSD	1323260-59	ND	9.8300	10.000	ug/L	8.7	98.3		75 - 125	
Toluene-d8 (Surrogate)	MS	1323260-59	ND	9.9800	10.000	ug/L		99.8		80 - 120	
	MSD	1323260-59	ND	9.8100	10.000	ug/L	1.7	98.1		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1323260-59	ND	10.310	10.000	ug/L		103		80 - 120	
	MSD	1323260-59	ND	10.100	10.000	ug/L	2.1	101		80 - 120	

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

Reported: 11/15/2013 10:55
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: BWK0074						
Benzene	BWK0074-BLK1	ND	ug/m3	2.0	0.22	
Ethylbenzene	BWK0074-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BWK0074-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BWK0074-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BWK0074-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BWK0074-BLK1**	**111**	%	**70 - 130 (LCL - UCL)**		

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

Reported: 11/15/2013 10:55
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: BWK0074										
Benzene	BWK0074-BS1	LCS	23.922	31.948	ug/m3	74.9		70 - 130		
	BWK0074-BSD1	LCSD	23.606	31.948	ug/m3	73.9	1.3	70 - 130	30	
Ethylbenzene	BWK0074-BS1	LCS	42.310	43.421	ug/m3	97.4		70 - 130		
	BWK0074-BSD1	LCSD	40.994	43.421	ug/m3	94.4	3.2	70 - 130	30	
Toluene	BWK0074-BS1	LCS	29.251	37.684	ug/m3	77.6		70 - 130		
	BWK0074-BSD1	LCSD	29.424	37.684	ug/m3	78.1	0.6	70 - 130	30	
Total Xylenes	BWK0074-BS1	LCS	131.14	130.26	ug/m3	101		70 - 130		
	BWK0074-BSD1	LCSD	118.46	130.26	ug/m3	90.9	10.2	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BWK0074-BS1	LCS	72.554	71.574	ug/m3	101		70 - 130		
	BWK0074-BSD1	LCSD	68.238	71.574	ug/m3	95.3	6.1	70 - 130		

Ground Zero Analysis, Inc. 1172 Kansas Avenue Modesto, CA 95354	**Reported:** 11/15/2013 10:55 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: 12/20/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1327130
Invoice ID:	B162660

Enclosed are the results of analyses for samples received by the laboratory on 12/11/2013. 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

13-27130

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: (X) 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
12-3-13	1400	-1	W-3S	6	W	HCL	X
— "	— "	-2 MW 12-11-13	— "	6			
12-4-13	1530	-2	W-2S	6			
12-5-13	1245	-3	W-A	6			
12-5-13	1410	-4	W-1	6			
12-5-13	1305	-5	MW-104	5			
12-5-13	1200	-6	MW-204	6			
12-5-13	1140	-7	MW-304	6			
12-5-13	1120	-8	MW-404	6			
12-5-13	1355	-9	MW-205	4			
12-4-13	1515	-10	MW-305	4			
12-4-13	1220	-11	MW-206	6			
12-4-13	1200	-12	MW-306	4			
12-4-13	1240	-13	MW-207	3			
12-4-13	1440	-14	MW-208	6	↓	↓	↓

Laboratory: BC LABS

Purchase Order # 1262-703348

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

Email Lab Report (.pdf): (X) 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

CHK BY: M DISTRIBUTION: NCE SUB-OUT

	Signature	Print Name	Company	Date:	Time:
Received/ Relinquished by:		ANDREW DORN	GZA	12-10-13	16:50
Received/ Relinquished by:		JOSE BARCENA	BCLAB	12-11-13	16:50
Received/ Relinquished by:		JOSE BARCENA	BCLAB	12-11-13	2210

Please return cooler / ice chest to GZA / Geological Technics

Rec-KB - 12.11.13 2210

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 1327130 Page 2 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 16 07/01/13 Page 1 Of 2

Submission #: 13-27130

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 12/11/13 2210

Temperature: (A) 1.6 °C / (C) 1.5 °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										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-6	A-6	A-6	A-6	A-8	A-6	A-6	A-6	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										
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: Broke VOAs! -3(1), -5(2), -8(1) -11(1)

Sample Numbering Completed By: MM Date/Time: 12/12/13 @ 1535

A = Actual / C = Corrected

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Chain of Custody and Cooler Receipt Form for 1327130 Page 3 of 3

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

Submission #: 13-27130

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: Vial Thermometer ID: 207 Date/Time 12/11/13 2210

Temperature: (A) 1.6 °C / (C) 1.5 °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	A-4	A-3	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: Broke VOAs: -3(1), -5(2), -8(1), -11(1)

Sample Numbering Completed By: MW Date/Time: 12/12/13 @ 1535

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1327130-01	**COC Number:**	---	**Receive Date:** 12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:** 12/03/2013 14:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	W-3s	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): W-3s
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1327130-02	**COC Number:**	---	**Receive Date:** 12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:** 12/04/2013 15:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	W-1s	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): W-1s
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1327130-03	**COC Number:**	---	**Receive Date:** 12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:** 12/05/2013 12:45
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	W-A	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): W-A
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1327130-04	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/05/2013 14:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	W-1	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): W-1	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1327130-05	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/05/2013 13:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-104	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-104	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1327130-06	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/05/2013 12:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-204	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-204	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1327130-07	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/05/2013 11:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-304	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-304	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1327130-08	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/05/2013 11:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-404	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-404	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1327130-09	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/05/2013 13:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-205	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-205	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1327130-10	**COC Number:**	---	**Receive Date:** 12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:** 12/04/2013 15:15
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-305	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): MW-305
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1327130-11	**COC Number:**	---	**Receive Date:** 12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:** 12/04/2013 12:20
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-206	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): MW-206
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1327130-12	**COC Number:**	---	**Receive Date:** 12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:** 12/04/2013 12:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-306	**Lab Matrix:** Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600100116
			Location ID (FieldPoint): MW-306
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1327130-13	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/04/2013 12:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-207	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-207	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1327130-14	**COC Number:**	---	**Receive Date:**	12/11/2013 22:10
	Project Number:	Sullins	**Sampling Date:**	12/04/2013 14:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-208	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): MW-208	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-01 | **Client Sample Name:** Sullins, W-3s, 12/3/2013 2:00:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**6.2**	**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	ND	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	**16**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND	J	1
1,2-Dichloroethane-d4 (Surrogate)	95.7	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.5	%	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	12/13/13	12/13/13 12:25	EAR	MS-V12	1	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-02 | **Client Sample Name:** Sullins, W-1s, 12/4/2013 3:30:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**140**	**ug/L**	**1.0**	**0.17**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**7.8**	**ug/L**	**1.0**	**0.20**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**7.4**	**ug/L**	**1.0**	**0.22**	**EPA-8260B**	ND	**A01**	1
Toluene	**16**	**ug/L**	**1.0**	**0.19**	**EPA-8260B**	ND	**A01**	1
Total Xylenes	**120**	**ug/L**	**2.0**	**0.72**	**EPA-8260B**	ND	**A01**	1
p- & m-Xylenes	**36**	**ug/L**	**1.0**	**0.56**	**EPA-8260B**	ND	**A01**	1
o-Xylene	**85**	**ug/L**	**1.0**	**0.16**	**EPA-8260B**	ND	**A01**	1
Total Purgeable Petroleum Hydrocarbons	**1100**	**ug/L**	**100**	**14**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	99.1	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	106	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/13/13 23:04	EAR	MS-V12	2	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-03 | **Client Sample Name:** Sullins, W-A, 12/5/2013 12:45:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	930	ug/L	5.0	0.83	EPA-8260B	ND	A01	1
Ethylbenzene	59	ug/L	5.0	0.98	EPA-8260B	ND	A01	1
Methyl t-butyl ether	7.2	ug/L	5.0	1.1	EPA-8260B	ND	A01	1
Toluene	54	ug/L	5.0	0.93	EPA-8260B	ND	A01	1
Total Xylenes	220	ug/L	10	3.6	EPA-8260B	ND	A01	1
p- & m-Xylenes	130	ug/L	5.0	2.8	EPA-8260B	ND	A01	1
o-Xylene	90	ug/L	5.0	0.82	EPA-8260B	ND	A01	1
Total Purgeable Petroleum Hydrocarbons	2800	ug/L	500	72	Luft-GC/MS	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	107	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/13/13 23:21	EAR	MS-V12	10	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-04 | **Client Sample Name:** Sullins, W-1, 12/5/2013 2:10:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**2100**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**440**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**13**	**ug/L**	**12**	**2.8**	**EPA-8260B**	ND	**A01**	1
Toluene	**580**	**ug/L**	**12**	**2.3**	**EPA-8260B**	ND	**A01**	1
Total Xylenes	**1900**	**ug/L**	**25**	**9.0**	**EPA-8260B**	ND	**A01**	1
p- & m-Xylenes	**1400**	**ug/L**	**12**	**7.0**	**EPA-8260B**	ND	**A01**	1
o-Xylene	**430**	**ug/L**	**12**	**2.0**	**EPA-8260B**	ND	**A01**	1
Total Purgeable Petroleum Hydrocarbons	**15000**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	95.9	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	96.2	%	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	12/13/13	12/13/13 23:39	EAR	MS-V12	25	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-05 | **Client Sample Name:** Sullins, MW-104, 12/5/2013 1:05:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	840	ug/L	50	8.3	EPA-8260B	ND	A01	1
Ethylbenzene	150	ug/L	5.0	0.98	EPA-8260B	ND	A01	2
Methyl t-butyl ether	20	ug/L	5.0	1.1	EPA-8260B	ND	A01	2
Toluene	100	ug/L	5.0	0.93	EPA-8260B	ND	A01	2
Total Xylenes	350	ug/L	10	3.6	EPA-8260B	ND	A01	2
p- & m-Xylenes	260	ug/L	5.0	2.8	EPA-8260B	ND	A01	2
o-Xylene	83	ug/L	5.0	0.82	EPA-8260B	ND	A01	2
Total Purgeable Petroleum Hydrocarbons	6000	ug/L	500	72	Luft-GC/MS	ND	A01	2
1,2-Dichloroethane-d4 (Surrogate)	99.7	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	98.0	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	96.5	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.8	%	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	12/13/13	12/13/13 15:21	EAR	MS-V12	100	BWL1075
2	EPA-8260B	12/13/13	12/13/13 23:56	EAR	MS-V12	10	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-06 | **Client Sample Name:** Sullins, MW-204, 12/5/2013 12:00:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	390	ug/L	25	4.2	EPA-8260B	ND	A01	1
Ethylbenzene	120	ug/L	1.0	0.20	EPA-8260B	ND	A01	2
Methyl t-butyl ether	3.9	ug/L	1.0	0.22	EPA-8260B	ND	A01	2
Toluene	32	ug/L	1.0	0.19	EPA-8260B	ND	A01	2
Total Xylenes	190	ug/L	2.0	0.72	EPA-8260B	ND	A01	2
p- & m-Xylenes	160	ug/L	1.0	0.56	EPA-8260B	ND	A01	2
o-Xylene	37	ug/L	1.0	0.16	EPA-8260B	ND	A01	2
Total Purgeable Petroleum Hydrocarbons	3100	ug/L	100	14	Luft-GC/MS	ND	A01	2
1,2-Dichloroethane-d4 (Surrogate)	95.9	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	97.7	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	99.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	93.3	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	103	%	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	12/13/13	12/13/13 15:39	EAR	MS-V12	50	BWL1075
2	EPA-8260B	12/13/13	12/14/13 00:13	EAR	MS-V12	2	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-07 | **Client Sample Name:** Sullins, MW-304, 12/5/2013 11:40:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**270**	**ug/L**	**12**	**2.1**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**94**	**ug/L**	**12**	**2.4**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-8260B	ND		2
Toluene	**31**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**230**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**180**	**ug/L**	**0.50**	**0.28**	**EPA-8260B**	ND		2
o-Xylene	**48**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		2
Total Purgeable Petroleum Hydrocarbons	**1600**	**ug/L**	**1200**	**180**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	96.6	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	98.0	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	95.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	95.3	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	110	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	113	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/14/13 00:31	EAR	MS-V12	25	BWL1075
2	EPA-8260B	12/13/13	12/13/13 12:43	EAR	MS-V12	1	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-08 | **Client Sample Name:** Sullins, MW-404, 12/5/2013 11:20:00AM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**540**	**ug/L**	**25**	**4.2**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**140**	**ug/L**	**25**	**4.9**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**3.2**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**57**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**290**	**ug/L**	**50**	**18**	**EPA-8260B**	ND	**A01**	1
p- & m-Xylenes	**150**	**ug/L**	**25**	**14**	**EPA-8260B**	ND	**A01**	1
o-Xylene	**140**	**ug/L**	**25**	**4.1**	**EPA-8260B**	ND	**A01**	1
Total Purgeable Petroleum Hydrocarbons	**2500**	**ug/L**	**2500**	**360**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	96.7	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	90.8	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	113	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/14/13 00:48	EAR	MS-V12	50	BWL1075
2	EPA-8260B	12/13/13	12/13/13 13:00	EAR	MS-V12	1	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-09 | **Client Sample Name:** Sullins, MW-205, 12/5/2013 1:55:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	3400	ug/L	50	8.3	EPA-8260B	ND	A01	1
Ethylbenzene	270	ug/L	12	2.4	EPA-8260B	ND	A01	2
Methyl t-butyl ether	28	ug/L	12	2.8	EPA-8260B	ND	A01	2
Toluene	30	ug/L	12	2.3	EPA-8260B	ND	A01	2
Total Xylenes	370	ug/L	25	9.0	EPA-8260B	ND	A01	2
p- & m-Xylenes	260	ug/L	12	7.0	EPA-8260B	ND	A01	2
o-Xylene	100	ug/L	12	2.0	EPA-8260B	ND	A01	2
Total Purgeable Petroleum Hydrocarbons	12000	ug/L	1200	180	Luft-GC/MS	ND	A01	2
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	99.8	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	98.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	98.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	107	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/14/13 01:05	EAR	MS-V12	100	BWL1075
2	EPA-8260B	12/13/13	12/13/13 15:56	EAR	MS-V12	25	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-10 | **Client Sample Name:** Sullins, MW-305, 12/4/2013 3:15:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	1200	ug/L	12	2.1	EPA-8260B	ND	A01	1
Ethylbenzene	88	ug/L	12	2.4	EPA-8260B	ND	A01	1
Methyl t-butyl ether	0.36	ug/L	0.50	0.11	EPA-8260B	ND	J	2
Toluene	21	ug/L	0.50	0.093	EPA-8260B	ND		2
Total Xylenes	240	ug/L	1.0	0.36	EPA-8260B	ND		2
p- & m-Xylenes	190	ug/L	0.50	0.28	EPA-8260B	ND		2
o-Xylene	50	ug/L	0.50	0.082	EPA-8260B	ND		2
Total Purgeable Petroleum Hydrocarbons	2700	ug/L	1200	180	Luft-GC/MS	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	95.4	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	94.5	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	99.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	90.8	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	99.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	114	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/14/13 01:23	EAR	MS-V12	25	BWL1075
2	EPA-8260B	12/13/13	12/13/13 13:19	EAR	MS-V12	1	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-11 | **Client Sample Name:** Sullins, MW-206, 12/4/2013 12:20:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**3.0**	**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	**1.2**	**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	**68**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.8	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	100	%	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	12/13/13	12/13/13 13:36	EAR	MS-V12	1	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-12 | **Client Sample Name:** Sullins, MW-306, 12/4/2013 12:00:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	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	ND	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	**47**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND	J	1
1,2-Dichloroethane-d4 (Surrogate)	92.8	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	97.7	%	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	12/13/13	12/13/13 13:54	EAR	MS-V12	1	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-13 | **Client Sample Name:** Sullins, MW-207, 12/4/2013 12:40:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**7200**	**ug/L**	**50**	**8.3**	**EPA-8260B**	ND	**A01**	1
Ethylbenzene	**330**	**ug/L**	**50**	**9.8**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**93**	**ug/L**	**2.5**	**0.55**	**EPA-8260B**	ND	**A01**	2
Toluene	**68**	**ug/L**	**2.5**	**0.46**	**EPA-8260B**	ND	**A01**	2
Total Xylenes	**210**	**ug/L**	**5.0**	**1.8**	**EPA-8260B**	ND	**A01**	2
p- & m-Xylenes	**170**	**ug/L**	**2.5**	**1.4**	**EPA-8260B**	ND	**A01**	2
o-Xylene	**39**	**ug/L**	**2.5**	**0.41**	**EPA-8260B**	ND	**A01**	2
Total Purgeable Petroleum Hydrocarbons	**13000**	**ug/L**	**5000**	**720**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	97.4	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	95.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	90.8	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	107	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	109	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/13/13 16:14	EAR	MS-V12	100	BWL1075
2	EPA-8260B	12/13/13	12/14/13 01:40	EAR	MS-V12	5	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327130-14 | **Client Sample Name:** Sullins, MW-208, 12/4/2013 2:40:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	540	ug/L	50	8.3	EPA-8260B	ND	A01	1
Ethylbenzene	150	ug/L	5.0	0.98	EPA-8260B	ND	A01	2
Methyl t-butyl ether	17	ug/L	5.0	1.1	EPA-8260B	ND	A01	2
Toluene	15	ug/L	5.0	0.93	EPA-8260B	ND	A01	2
Total Xylenes	84	ug/L	10	3.6	EPA-8260B	ND	A01	2
p- & m-Xylenes	54	ug/L	5.0	2.8	EPA-8260B	ND	A01	2
o-Xylene	30	ug/L	5.0	0.82	EPA-8260B	ND	A01	2
Total Purgeable Petroleum Hydrocarbons	5300	ug/L	500	72	Luft-GC/MS	ND	A01	2
1,2-Dichloroethane-d4 (Surrogate)	96.5	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	94.1	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	99.1	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	97.4	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/13/13	12/13/13 16:31	EAR	MS-V12	100	BWL1075
2	EPA-8260B	12/13/13	12/14/13 02:15	EAR	MS-V12	10	BWL1075

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL1075						
Benzene	BWL1075-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BWL1075-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BWL1075-BLK1	ND	ug/L	0.50	0.11	
Toluene	BWL1075-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BWL1075-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BWL1075-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BWL1075-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BWL1075-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BWL1075-BLK1**	**105**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWL1075-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWL1075-BLK1**	**99.7**	%	**80 - 120 (LCL - UCL)**		

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWL1075										
Benzene	BWL1075-BS1	LCS	24.910	25.000	ug/L	99.6		70 - 130		
Toluene	BWL1075-BS1	LCS	23.550	25.000	ug/L	94.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWL1075-BS1	LCS	9.1000	10.000	ug/L	91.0		75 - 125		
Toluene-d8 (Surrogate)	BWL1075-BS1	LCS	9.8000	10.000	ug/L	98.0		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWL1075-BS1	LCS	10.270	10.000	ug/L	103		80 - 120		

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

Reported: 12/20/2013 10:47
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWL1075	Used client sample: N										
Benzene	MS	1325870-24	ND	25.610	25.000	ug/L		102		70 - 130	
	MSD	1325870-24	ND	25.370	25.000	ug/L	0.9	101	20	70 - 130	
Toluene	MS	1325870-24	ND	23.690	25.000	ug/L		94.8		70 - 130	
	MSD	1325870-24	ND	23.920	25.000	ug/L	1.0	95.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1325870-24	ND	9.6300	10.000	ug/L		96.3		75 - 125	
	MSD	1325870-24	ND	9.2400	10.000	ug/L	4.1	92.4		75 - 125	
Toluene-d8 (Surrogate)	MS	1325870-24	ND	9.7700	10.000	ug/L		97.7		80 - 120	
	MSD	1325870-24	ND	9.8800	10.000	ug/L	1.1	98.8		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1325870-24	ND	10.670	10.000	ug/L		107		80 - 120	
	MSD	1325870-24	ND	10.310	10.000	ug/L	3.4	103		80 - 120	

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

Reported: 12/20/2013 10:47
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: 12/26/2013

Project Manager

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

Project:	Sullins
BC Work Order:	1327207
Invoice ID:	B162931

Enclosed are the results of analyses for samples received by the laboratory on 12/12/2013. 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

13-27207

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: (X) 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
12-12-13	1445	-1	W-B5	6	W	HCL	X
12-12-13	1410	-2	MW-308	6	W	HCL	X

Laboratory: BC LABS

Purchase Order # 1262-703348

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

Email Lab Report (.pdf): (X) 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	12-12-13	1637
Received / Relinquished by:		JOSE BARCENA	BCLAB	12-12-13	16:37
Received / Relinquished by:		JOSE BARCENA	BCLAB	12-12-13	~~16:37~~ 2155

Please return cooler / ice chest to GZA / Geological Technics

Rec: KO 12/12/13 2155

Rev. 2/2013

Chain of Custody and Cooler Receipt Form for 1327207 Page 1 of 2

Chain of Custody and Cooler Receipt Form for 1327207 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 16 07/01/13 Page 1 Of 1

Submission #: 13-27207

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: 0.95 Container: 04PE Thermometer ID: 207

Temperature: (A) 1.4 °C / (C) 1.5 °C

Date/Time 12/12/13 2155

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	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: MM Date/Time: 12/13/13@0745

A = Actual / C = Corrected

I:\Acty\DOCS\WordPerfect\LAB_DOCS\FORMS\SAMREC15I

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

Reported: 12/26/2013 9:13
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1327207-01	**COC Number:**	---	**Receive Date:**	12/12/2013 21:55
	Project Number:	Sullins	**Sampling Date:**	12/12/2013 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	W-Bs	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: T0600100116	
			Location ID (FieldPoint): W-Bs	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
1327207-02	**COC Number:**	---	**Receive Date:**	12/12/2013 21:55
	Project Number:	Sullins	**Sampling Date:**	12/12/2013 14:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-308	**Lab Matrix:**	Water
	Sampled By:	Andrew Dorn of GTIM	**Sample Type:**	Water
			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: 12/26/2013 9:13
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327207-01 | **Client Sample Name:** Sullins, W-Bs, 12/12/2013 2:45:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**62**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**31**	**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	**3.8**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		1
Total Xylenes	**5.1**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		1
p- & m-Xylenes	**3.8**	**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	**1600**	**ug/L**	**50**	**7.2**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.0	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.6	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	12/23/13	12/24/13 04:16	EAR	MS-V10	1	BWL1782

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

Reported: 12/26/2013 9:13
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1327207-02 | **Client Sample Name:** Sullins, MW-308, 12/12/2013 2:10:00PM, 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**	1
Ethylbenzene	**140**	**ug/L**	**5.0**	**0.98**	**EPA-8260B**	ND	**A01**	1
Methyl t-butyl ether	**0.60**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		2
Toluene	**14**	**ug/L**	**0.50**	**0.093**	**EPA-8260B**	ND		2
Total Xylenes	**75**	**ug/L**	**1.0**	**0.36**	**EPA-8260B**	ND		2
p- & m-Xylenes	**63**	**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	**3200**	**ug/L**	**500**	**72**	**Luft-GC/MS**	ND	**A01**	1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	96.7	%	80 - 120 (LCL - UCL)		EPA-8260B			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	12/23/13	12/24/13 09:12	EAR	MS-V10	10	BWL1782
2	EPA-8260B	12/23/13	12/24/13 04:34	EAR	MS-V10	1	BWL1782

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

Reported: 12/26/2013 9:13
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWL1782						
Benzene	BWL1782-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BWL1782-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BWL1782-BLK1	ND	ug/L	0.50	0.11	
Toluene	BWL1782-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BWL1782-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BWL1782-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BWL1782-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BWL1782-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BWL1782-BLK1**	**102**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BWL1782-BLK1**	**99.9**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BWL1782-BLK1**	**97.0**	%	**80 - 120 (LCL - UCL)**		

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

Reported: 12/26/2013 9:13
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWL1782										
Benzene	BWL1782-BS1	LCS	23.800	25.000	ug/L	95.2		70 - 130		
Toluene	BWL1782-BS1	LCS	25.190	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWL1782-BS1	LCS	10.430	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	BWL1782-BS1	LCS	9.9400	10.000	ug/L	99.4		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWL1782-BS1	LCS	10.070	10.000	ug/L	101		80 - 120		

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

Reported: 12/26/2013 9:13
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BWL1782	Used client sample: N										
Benzene	MS	1325870-47	ND	23.680	25.000	ug/L		94.7		70 - 130	
	MSD	1325870-47	ND	24.030	25.000	ug/L	1.5	96.1	20	70 - 130	
Toluene	MS	1325870-47	ND	24.140	25.000	ug/L		96.6		70 - 130	
	MSD	1325870-47	ND	25.620	25.000	ug/L	5.9	102	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1325870-47	ND	10.730	10.000	ug/L		107		75 - 125	
	MSD	1325870-47	ND	10.800	10.000	ug/L	0.7	108		75 - 125	
Toluene-d8 (Surrogate)	MS	1325870-47	ND	10.180	10.000	ug/L		102		80 - 120	
	MSD	1325870-47	ND	10.160	10.000	ug/L	0.2	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1325870-47	ND	10.110	10.000	ug/L		101		80 - 120	
	MSD	1325870-47	ND	10.110	10.000	ug/L	0	101		80 - 120	

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

Reported: 12/26/2013 9:13
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: 01/23/2014

Project Manager

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

Client Project:	1262.2
BCL Project:	Sullins
BCL Work Order:	1401168
Invoice ID:	B164733

Enclosed are the results of analyses for samples received by the laboratory on 1/15/2014. 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

14-01168

Billing To: Ground Zero Analysis, Inc.

Project #:	1262-2
Project Name:	SULLIVS
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	1-15-14	1350		SVE-INF UPPER	1	G	NONE	X	
-2	↓	1435		SVE-INF LOWER	1	G	NONE	X	
-3	↓	1425		GW-INF	6	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: KQ

DISTRIBUTION: AIR/JKR SUB-OUT

Signature	Print Name	Company	Date:	Time:
Received / Relinquished by:	ANDREW DORN	GZA	1-15-14	1630
Received / Relinquished by:	Ross Dickey	BCLAB	1-15-14	1638
Received / Relinquished by:	Ross Dickey	BCLAB	1-15-14	1731

Please return cooler / ice chest to GZA / Geological Technics

REL (RS) 01-15-14 21:40

REC KQ 1-15-14 2140

REC Dawn Goggin 1-15-14 1730

REL Dawn Goggin 1-15-14 1845 REC (RS) 0.

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 1401168 Page 2 of 3

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

Submission #: 14-01168

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 1-15-14 2140

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										
loz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
MA PHENOLICS										
0ml VOA VIAL TRAVEL BLANK										
0ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
T ODOR										
ADIOLOGICAL										
ACTERIOLOGICAL										
0 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
00ml EPA 547										
00ml EPA 531.1										
T EPA 548										
T EPA 549										
T EPA 632										
T EPA 8015M										
T AMBER										
OZ. JAR										
2 OZ. JAR										
OIL SLEEVE										
CB VIAL										
LASTIC BAG										
ERROUS IRON										
NCORE										
VIART KIT										
umma Canister										

mments:_____

mple Numbering Completed By: SAS Date/Time: 1-15-14 2140

Chain of Custody and Cooler Receipt Form for 1401168 Page 3 of 3

BC LABORATORIES INC. **COOLER RECEIPT FORM** Rev. No. 16 07/01/13 Page 2 Of 2

Submission #: 14-01168

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 1-15-14 2140

Temperature: (A) 1.9 °C / (C) 1.7 °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: 1-15-14 2200

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

Reported: 01/23/2014 9:41
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1401168-01	**COC Number:**	---	**Receive Date:**	01/15/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	01/15/2014 13:50
	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:			
1401168-02	**COC Number:**	---	**Receive Date:**	01/15/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	01/15/2014 14:35
	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:			
1401168-03	**COC Number:**	---	**Receive Date:**	01/15/2014 21:40
	Project Number:	Sullins	**Sampling Date:**	01/15/2014 14:25
	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:			

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

Reported: 01/23/2014 9:41
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: 1401168-01 | **Client Sample Name:** Sullins, SVE-INF Upper, 1/15/2014 1:50:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**1300**	**ug/m3**	**2.0**	**0.22**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	5.0	2.0	EPA-TO-15	ND	A01	1
Ethylbenzene	**90**	**ug/m3**	**5.0**	**0.23**	**EPA-TO-15**	ND	**A01**	1
Toluene	**1200**	**ug/m3**	**2.0**	**0.20**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**1300**	**ug/m3**	**10**	**0.80**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**600000**	**ug/m3**	**200**	**39**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	92.3	%	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	01/17/14	01/17/14 14:21	MJB	MS-A1	1	BXA1058

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

Reported: 01/23/2014 9:41
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: 1401168-02 | **Client Sample Name:** Sullins, SVE-INF Lower, 1/15/2014 2:35:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**50000**	**ug/m3**	**2.0**	**0.22**	**EPA-TO-15**	ND	**A01**	1
1,1-Difluoroethane	ND	ug/m3	5.0	2.0	EPA-TO-15	ND	A01	1
Ethylbenzene	**2200**	**ug/m3**	**5.0**	**0.23**	**EPA-TO-15**	ND	**A01**	1
Toluene	**12000**	**ug/m3**	**2.0**	**0.20**	**EPA-TO-15**	ND	**A01**	1
Total Xylenes	**12000**	**ug/m3**	**10**	**0.80**	**EPA-TO-15**	ND	**A01**	1
Total Petroleum Hydrocarbons	**1800000**	**ug/m3**	**200**	**39**	**EPA-TO-15**	ND	**A01**	1
4-Bromofluorobenzene (Surrogate)	79.1	%	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	01/17/14	01/17/14 14:52	MJB	MS-A1	1	BXA1058

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

Reported: 01/23/2014 9:41
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1401168-03 | **Client Sample Name:** Sullins, GW-Inf, 1/15/2014 2:25:00PM, Andrew Dorn

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	**43**	**ug/L**	**0.50**	**0.083**	**EPA-8260B**	ND		1
Ethylbenzene	**19**	**ug/L**	**0.50**	**0.098**	**EPA-8260B**	ND		1
Methyl t-butyl ether	**1.2**	**ug/L**	**0.50**	**0.11**	**EPA-8260B**	ND		1
Toluene	**18**	**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	**39**	**ug/L**	**0.50**	**0.082**	**EPA-8260B**	ND		1
Total Purgeable Petroleum Hydrocarbons	**2600**	**ug/L**	**100**	**14**	**Luft-GC/MS**	ND	**A01**	2
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-8260B			1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			2
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.2	%	80 - 120 (LCL - UCL)		EPA-8260B			2
4-Bromofluorobenzene (Surrogate)	111	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-8260B			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	01/16/14	01/16/14 12:37	EAR	MS-V12	1	BXA1033
2	EPA-8260B	01/16/14	01/16/14 15:33	EAR	MS-V12	2	BXA1033

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

Reported: 01/23/2014 9:41
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BXA1033						
Benzene	BXA1033-BLK1	ND	ug/L	0.50	0.083	
Ethylbenzene	BXA1033-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BXA1033-BLK1	ND	ug/L	0.50	0.11	
Toluene	BXA1033-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BXA1033-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BXA1033-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BXA1033-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BXA1033-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	**BXA1033-BLK1**	**105**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BXA1033-BLK1**	**102**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BXA1033-BLK1**	**98.8**	%	**80 - 120 (LCL - UCL)**		

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

Reported: 01/23/2014 9:41
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BXA1033										
Benzene	BXA1033-BS1	LCS	22.020	25.000	ug/L	88.1		70 - 130		
Toluene	BXA1033-BS1	LCS	22.680	25.000	ug/L	90.7		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BXA1033-BS1	LCS	9.8700	10.000	ug/L	98.7		75 - 125		
Toluene-d8 (Surrogate)	BXA1033-BS1	LCS	9.9400	10.000	ug/L	99.4		80 - 120		
4-Bromofluorobenzene (Surrogate)	BXA1033-BS1	LCS	9.8900	10.000	ug/L	98.9		80 - 120		

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

Reported: 01/23/2014 9:41
Project: Sullins
Project Number: 1262.2
Project Manager: Project Manager

Volatile Organic Analysis (EPA Method 8260)

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: BXA1033	Used client sample: N										
Benzene	MS	1400811-11	ND	24.240	25.000	ug/L		97.0		70 - 130	
	MSD	1400811-11	ND	24.320	25.000	ug/L	0.3	97.3	20	70 - 130	
Toluene	MS	1400811-11	ND	24.970	25.000	ug/L		99.9		70 - 130	
	MSD	1400811-11	ND	25.250	25.000	ug/L	1.1	101	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1400811-11	ND	9.7800	10.000	ug/L		97.8		75 - 125	
	MSD	1400811-11	ND	9.6900	10.000	ug/L	0.9	96.9		75 - 125	
Toluene-d8 (Surrogate)	MS	1400811-11	ND	9.9900	10.000	ug/L		99.9		80 - 120	
	MSD	1400811-11	ND	10.160	10.000	ug/L	1.7	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1400811-11	ND	9.9000	10.000	ug/L		99.0		80 - 120	
	MSD	1400811-11	ND	9.9400	10.000	ug/L	0.4	99.4		80 - 120	

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

Reported: 01/23/2014 9:41
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: BXA1058						
Benzene	BXA1058-BLK1	ND	ug/m3	2.0	0.22	
1,1-Difluoroethane	BXA1058-BLK1	ND	ug/m3	5.0	2.0	
Ethylbenzene	BXA1058-BLK1	ND	ug/m3	5.0	0.23	
Toluene	BXA1058-BLK1	ND	ug/m3	2.0	0.20	
Total Xylenes	BXA1058-BLK1	ND	ug/m3	10	0.80	
Total Petroleum Hydrocarbons	BXA1058-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BXA1058-BLK1**	**78.3**	%	**70 - 130 (LCL - UCL)**		

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

Reported: 01/23/2014 9:41
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: BXA1058										
Benzene	BXA1058-BS1	LCS	26.127	31.948	ug/m3	81.8		70 - 130		
	BXA1058-BSD1	LCSD	29.091	31.948	ug/m3	91.1	10.7	70 - 130	30	
1,1-Difluoroethane	BXA1058-BS1	LCS	ND		ug/m3			70 - 130		
	BXA1058-BSD1	LCSD	ND		ug/m3			70 - 130	30	
Ethylbenzene	**BXA1058-BS1**	LCS	**76.326**	**43.421**	**ug/m3**	**176**		**70 - 130**		
	BXA1058-BSD1	LCSD	**79.878**	**43.421**	**ug/m3**	**184**	**4.5**	**70 - 130**	**30**	
Toluene	BXA1058-BS1	LCS	42.327	37.684	ug/m3	112		70 - 130		
	BXA1058-BSD1	LCSD	40.428	37.684	ug/m3	107	4.6	70 - 130	30	
Total Xylenes	**BXA1058-BS1**	LCS	**81.128**	**130.26**	**ug/m3**	**62.3**		**70 - 130**		
	BXA1058-BSD1	LCSD	**79.387**	**130.26**	**ug/m3**	**60.9**	**2.2**	**70 - 130**	**30**	
4-Bromofluorobenzene (Surrogate)	**BXA1058-BS1**	LCS	**93.511**	**71.574**	**ug/m3**	**131**		**70 - 130**		
	BXA1058-BSD1	LCSD	**72.411**	**71.574**	**ug/m3**	**101**	**25.4**	**70 - 130**		

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

Reported:	01/23/2014 9:41
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.

Appendix C

Groundwater Monitoring Field Notes

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-1s

Date: 12/4/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:20	0	20.83	1090	7.06	-189.2	0.85	Blackish clear (Bio), strong odor, no sediments
13:43	14.5	21.08	1090	6.74	-222.1	0.22	Blackish clear (Bio), strong odor, no sediments
14:10	29.0	20.39	1083	6.73	-48.1	0.36	Blackish clear (Bio), strong odor, no sediments
15:05	43.5	20.40	1086	6.73	-50.0	0.35	Blackish clear (Bio), strong odor, no sediments
15:30							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: 2.41 gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	44.16
Silt Thickness (ft):	0.84
Initial DTW (ft):	34.47
Water column height (ft):	9.69
One casing volume (gal):	14.34
** Final DTW (ft):	36.00
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: Allowed recharge prior to 3rd purge volume & sampling. Max drawdown to 40'
BGS. Recharge to 36' BGS, very slow. Collected sample w/bailer.

Sampled By: A. Dorn Andrew 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-3s

Project No.: 1262.2

Date: 12/3/2013

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
13:05	0	18.63	984	6.74	18.7	5.86	Clearish black, no odor, few sediments
13:21	5.00	18.90	913	6.59	62.6	1.63	Clearish black, no odor, few sediments
13:37	10.00	18.34	1004	6.57	72.0	1.29	Clearish black, no odor, few sediments
13:55	15.00	18.36	1003	6.57	72.8	1.27	Clearish black, no odor, few sediments
14:00							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: 0.30 gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	43.42
Silt Thickness (ft):	1.58
Initial DTW (ft):	35.9
Water column height (ft):	7.52
One casing volume (gal):	4.88
** Final DTW (ft):	35.99
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: Collected sample with a balier

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: 12/4/2013

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	0.0	19.89	854	7.15	-133.2	1.65	Milky greenish gray, slight odor, no sediments
11:08	14.5	20.16	820	6.80	-59.5	0.69	Milky greenish gray, slight odor, no sediments
11:45	29.0	19.36	806	6.87	-54.3	1.11	Clear, slight odor, no sediments
12:30	43.5	19.37	810	6.86	-53.1	1.19	Clear, slight odor, no sediments
13:00							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: 2.76 gal/min

Well Constructed TD (ft):	45.00
* Well TD (ft):	44.28
Silt Thickness (ft):	0.72
Initial DTW (ft):	34.63
Water column height (ft):	9.65
One casing volume (gal):	14.28
** Final DTW (ft):	34.65
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: Allowed recharge prior to sampling. Max drawdown to 37.5' below top of casing

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-A

Date: 12/5/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:20	0	20.23	1377	7.30	-164.8	3.39	Olive green, strong odor, very few sediments
10:55	11.25	20.20	1247	7.02	-126.0	1.09	Olive green, strong odor, very few sediments
11:25	22.50	19.88	1240	7.01	-137.3	0.66	Clearish olive green, strong odor, very few sediments
12:15	33.75	20.16	1214	7.04	-117.8	0.79	Clearish olive green, strong odor, very few sediments
12:21	35.00	20.20	1210	7.03	-118.1	0.70	Clearish olive green, strong odor, very few sediments
12:45							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: 0.29 gal/min

Well Constructed TD (ft):	63.00
* Well TD (ft):	53.12
Silt Thickness (ft):	9.88
Initial DTW (ft):	35.93
Water column height (ft):	17.19
One casing volume (gal):	11.17
** Final DTW (ft):	36.51
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-1

Project No.: 1262.2

Date: 12/5/2013

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
12:55	0	20.23	1240	7.07	-171.6	3.16	Milky black w/sheen, very strong odor, very few sediments
13:15	3.25	20.53	1088	6.85	-140.2	0.25	Milky black w/sheen, very strong odor, very few sediments
13:35	6.50	20.56	1064	6.84	-137.3	0.18	Milky black w/sheen, very strong odor, very few sediments
13:55	9.75	20.51	1052	6.82	-134.4	0.26	Olive green, very strong odor, no sediments
14:05	11.00	20.53	1051	6.82	-135.6	0.16	Olive green, very strong odor, no sediments
14:10							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: 0.15 gal/min

Well Constructed TD (ft):	56.50
* Well TD (ft):	54.55
Silt Thickness (ft):	1.95
Initial DTW (ft):	36.34
Water column height (ft):	18.21
One casing volume (gal):	3.10
** Final DTW (ft):	36.34
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.: MW-4

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	30.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	Dry
Water column height (ft):	
One casing volume (gal):	
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: _____ # VOAs __X__ preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: 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.: MW-104

Date: 12/5/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
12:50	0.75						Brown, stong odor, very few sediments
13:05							Collected Sample

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	50.50
* Well TD (ft):	49.88
Silt Thickness (ft):	0.62
Initial DTW (ft):	36.30
Water column height (ft):	13.58
One casing volume (gal):	0.15
** 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-204

Project No.: 1262.2

Date: 12/5/2013

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	1.5						Greenish gray, strong odor, no sediments
12:00							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	66.50
* Well TD (ft):	65.98
Silt Thickness (ft):	0.52
Initial DTW (ft):	36.06
Water column height (ft):	29.92
One casing volume (gal):	0.33
** 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-304

Date: 12/5/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:25	1.5						Light brown, mild odor, no sediments
11:40							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	75.50
* Well TD (ft):	75.12
Silt Thickness (ft):	0.38
Initial DTW (ft):	36.18
Water column height (ft):	38.94
One casing volume (gal):	0.43
** 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-404

Date: 12/5/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:00	1.5						Light brown, mild odor, no sediments
11:20							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	81.50
* Well TD (ft):	80.96
Silt Thickness (ft):	0.54
Initial DTW (ft):	36.30
Water column height (ft):	44.66
One casing volume (gal):	0.49
** 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-5

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	27.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	Dry
Water column height (ft):	
One casing volume (gal):	
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: _____ # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: 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)

Well I.D.: MW-105

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	37.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	
Water column height (ft):	
One casing volume (gal):	
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: _____ # 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-205

Date: 12/5/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:25	0.75						Light brown / clear, mild odor, no sediments
13:55							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	48.00
* Well TD (ft):	47.75
Silt Thickness (ft):	0.25
Initial DTW (ft):	35.99
Water column height (ft):	11.76
One casing volume (gal):	0.13
** 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: 12/4/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:45	1.5						Milky brown, slight odor, very few sediments
15:15							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	66.00
* Well TD (ft):	65.60
Silt Thickness (ft):	0.40
Initial DTW (ft):	36.11
Water column height (ft):	29.49
One casing volume (gal):	0.33
** 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-6

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	30.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	Dry
Water column height (ft):	
One casing volume (gal):	
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: _____ # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: 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)

Well I.D.: MW-106

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	37.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	
Water column height (ft):	
One casing volume (gal):	
** 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: 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)

Well I.D.: MW-206

Project No.: 1262.2

Date: 12/4/2013

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
12:00	0.75						Light brown, strong septic odor, no sediements
12:20							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	50.00
* Well TD (ft):	50.87
Silt Thickness (ft):	
Initial DTW (ft):	36.05
Water column height (ft):	14.82
One casing volume (gal):	0.17
** 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-306

Project No.: 1262.2

Date: 12/4/2013

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	1.5						Clearish black, strong septic odor, no sediments
12:00							Collected Samples

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):	36.12
Water column height (ft):	30.57
One casing volume (gal):	0.34
** 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-7

Date: 12/3/2013

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):	30.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	Dry
Water column height (ft):	
One casing volume (gal):	
** Final DTW (ft):	
Casing diameter (in):	CMT

Sample Containers used: _____ # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: 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)

Well I.D.: MW-107

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	40.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	
Water column height (ft):	
One casing volume (gal):	
** 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: 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)

Well I.D.: MW-207

Project No.: 1262.2

Date: 12/4/2013

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
12:25	0.75						Milky light brown, moderate odor, very few sediments
12:40							Collected Samples

Purge Method: ☒ Dedicated Waterra ☐ Centrifugal pump with dedicated tubing ☐ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	50.00
* Well TD (ft):	49.15
Silt Thickness (ft):	0.85
Initial DTW (ft):	37.14
Water column height (ft):	12.01
One casing volume (gal):	0.13
** 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-8

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	30.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	Dry
Water column height (ft):	
One casing volume (gal):	
** 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: 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)

Well I.D.: MW-108

Project No.: 1262.2

Date: 12/3/2013

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

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	40.00
* Well TD (ft):	
Silt Thickness (ft):	
Initial DTW (ft):	
Water column height (ft):	
One casing volume (gal):	
** 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: 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-208

Date: 12/4/2013

Samples sent to: BC Labs

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:25	0.75						Clearish black, strong odor, no sediments
14:40							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	52.00
* Well TD (ft):	50.81
Silt Thickness (ft):	1.19
Initial DTW (ft):	36.27
Water column height (ft):	14.54
One casing volume (gal):	0.16
** 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-308

Project No.: 1262.2

Date: 12/4/2013

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
14:00	1.5						Clearish black, moderate odor, very few sediments
14:15							Collected Samples

Purge Method: ☒ Dedicated Waterra ❑ Centrifugal pump with dedicated tubing ❑ Other

Pumping Rate: _____ gal/min

Well Constructed TD (ft):	66.00
* Well TD (ft):	63.46
Silt Thickness (ft):	2.54
Initial DTW (ft):	36.67
Water column height (ft):	26.79
One casing volume (gal):	0.30
** 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:

Galions 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:

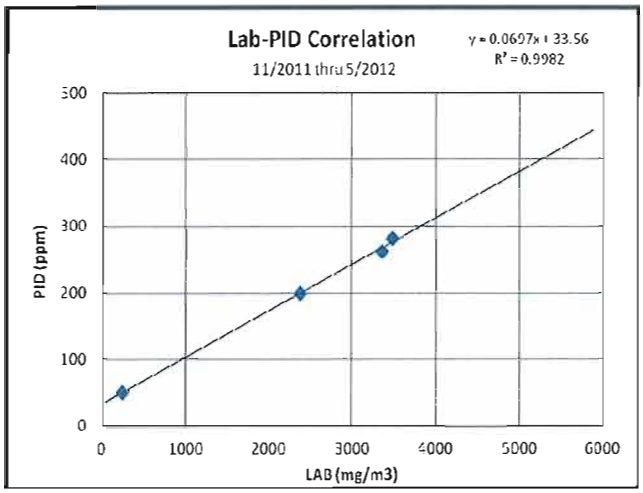
- Determine the vertical distance between the two measuring devices (wells) by calculating the distance between the mid-point between the screen top and bottom in the deep well (MW-305) and the mid-point between the screen top and bottom in the shallower well (MW-205).
- Measure the head in both wells 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

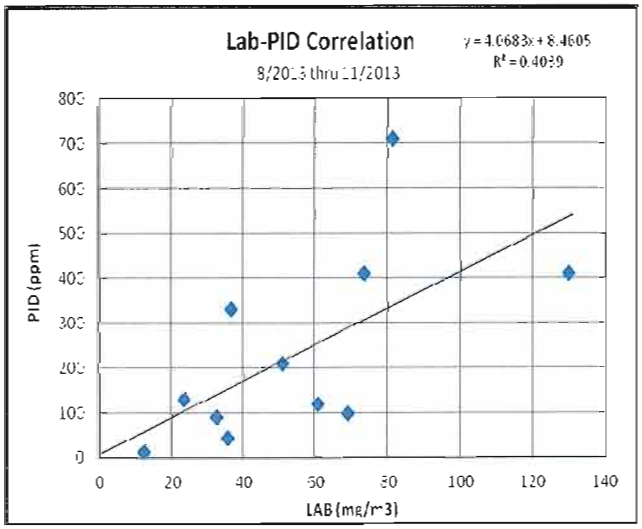
Appendix E: Dual Phase Extraction System Data Correlation

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