

July 30, 2008

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

**RECEIVED**

1:54 pm, Aug 01, 2008

Alameda County  
Environmental Health

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., Geological Technics Inc. (GTI) prepared the Semiannual Groundwater Monitoring, April of 2008, dated July 30, 2008 that was sent to your office via electronic delivery per Alameda County's guidelines on July 31, 2008.

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

# *Geological Technics Inc.*

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## **REPORT**

**Semiannual Groundwater Monitoring  
April 2008**

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

**Project No. 1262.2  
July 30, 2008**

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

**Prepared by:  
*Geological Technics Inc.*  
1101 7<sup>th</sup> Street  
Modesto, California 95354  
(209) 522-4119**

# *Geological Technics Inc.*

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1101 7<sup>th</sup> Street  
Modesto, California 95354  
(209) 522-4119/Fax (209) 522-4227

July 30, 2008

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

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

RE: Report: Semiannual Groundwater Monitoring, April 2008  
Location: 187 North L Street, Livermore, CA 94550.  
(ACEH Fuel Leak Case No. RO0000394)

Dear Mr. & Ms. Sullins:

Geological Technics Inc. has prepared the following Report for the 1<sup>st</sup> Semi-annual 2008 groundwater monitoring event performed on April 7 and 8, 2008, at the 187 North L Street property in Livermore. The groundwater data for the event indicate that the plume continues to display a trend of declining concentrations. However, an elevated core of gasoline contamination persists in the location of the former USTs/piping.

Supplemental analysis of groundwater showed pH, metals and cyanide levels that were within acceptable range or below sanitary sewer discharge levels for the City of Livermore.

GTI is currently implementing the Corrective Action Plan (CAP) that includes provisions for performing dual phase extraction to treat the residual contamination at the site, which has received approval from ACEH and cost pre-approval from the UST Cleanup Fund.

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

Respectfully submitted,

Tamora Bryant, P.E.

cc: Jerry Wickham - ACEH  
USTCUF  
Chris Davidson - City of Livermore  
Jennifer Sedlecheck - Exxon Mobile Corp.

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# ***Geological Technics Inc.***

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1101 7<sup>th</sup> Street  
Modesto, California 95354  
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## **REPORT**

### **Semiannual Groundwater Monitoring April 2008**

**Arrow Rentals Services  
187 North L St.  
Livermore, CA**

Project No. 1262.2  
July 30, 2008

#### **EXECUTIVE SUMMARY**

This report summarizes the results of the 1<sup>st</sup> Semi-annual 2008 groundwater monitoring and sampling event that took place on April 7-8, 2008, as well as supplemental analysis of W-1 groundwater samples and well abandonment activities that have occurred in the last two quarters.

The average shallow groundwater elevation at the site was 33 feet above mean sea level (msl) and the groundwater flow was N64°W at 0.012 ft/ft for this event. This represents a decrease of 6.96 feet since the December 2007 monitoring event.

The analytical results of groundwater samples show that detectable concentrations of gasoline range petroleum hydrocarbons were present in fourteen of the site's sixteen groundwater monitoring wells sampled for this event (down gradient well W-Es was non-detect). A persistent core remains in the vicinity of well W-1 (140,000 µg/l TPH-G) that is located adjacent to former USTs/piping trenches and is down gradient of the former UST system from which the Pitcock release originated.

On April 14, 2008, shortly after the groundwater monitoring event, monitoring wells W-B, W-C, W-D, and W-E were destroyed.

Supplemental analysis of groundwater showed pH, metals and cyanide levels that were within acceptable range or below sanitary sewer discharge levels for the City of Livermore.

GTI is currently implementing the Corrective Action Plan (CAP) that includes provisions for performing dual phase extraction to treat the residual contamination at the site, which has received approval from ACEH and cost pre-approval from the UST Cleanup Fund.

## **1.0 GROUNDWATER MONITORING**

### **1.1 Hydrogeology of Site**

The average groundwater elevation in the site's shallow wells was 447.23 feet above mean sea level (msl) on April 7, 2008. This corresponds to approximately 33 feet below grade surface (bgs) and represents a decrease of 6.96 feet since the December 2007 monitoring event. The depth to groundwater observed in the site's wells has ranged from approximately 20 - 45 feet below grade surface from 1989 to 2007. Refer to Figures 1 through 3 for site details, well and borehole locations.

GTI grouped the five new 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-A, W-B, W-C, W-D, W-E, MW-104, MW-205, MW-206, MW-207, MW-208

Note: Wells W-B, -C, -D, and -E were abandoned on April 14, 2008.

#### 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 aquifer levels, respectively.

#### Horizontal Groundwater Gradients:

The calculated gradients for the April 07, 2008 monitoring event are as follows:



<u>Aquifer Zone:</u>	<u>Gradient:</u>	<u>Bearing:</u>
Water table	0.012 ft/ft	N64°W
Intermediate	variable	northwest
Deep	0.10 ft/ft	N26°E

Figures 5A through 5C illustrate the three aquifer groundwater gradient maps for the April 7, 2008 monitoring event.

Vertical Groundwater Gradients:

GTI calculated vertical gradients for well pairs MW-204/304, and MW-207/307 well pairs for the April 7, 2008 monitoring event.

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-304) and the mid-point between the screen top and bottom in the shallower well (MW-204).
- 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.

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.

For the April 7, 2008 event:

- The vertical gradient for the MW-204/304 pair was negative (or downward) at 0.56 ft/ft.
- The vertical gradient for the MW-205/305 pair was positive (or upward) at 0.10 ft/ft.
- The vertical gradient for the MW-206/306 pair was negative (or downward) at 0.23 ft/ft
- The vertical gradient for the MW-207/307 pair was positive (or upward) at 0.13 ft/ft.

In their January 16, 2007 letter correspondence Alameda County Environmental Health (ACEH) staff directed that groundwater elevation data for deep wells MW-304 & MW-404 be included in future reports. This data has been added in two columns on the far right of Table 1C, Appendix A.

## 1.2 Groundwater Sampling Procedure

On April 7<sup>th</sup> and 8<sup>th</sup>, 2008 Geological Technics Inc. (GTI) staff mobilized to the site to conduct sounding and 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 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 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:

- Numerous CMT™ wells' Waterra check valves were clogged with clay/silt and multiple removal and rinsing episodes were necessary to clear the tubing. Due to this situation the field technicians were directed to obtain water samples as soon as the tubing was cleared enough to produce water for sampling. In one case only two VOAs were filled before the chamber went dry (MW-107).
- Wells MW-105, MW-106, and MW-404 were not sampled due to a lack of water/recharge for both days.
- Well W-Bs purged dry before three well volumes were removed.

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 insure the integrity of the samples.

All well purge water was placed in a 55 gallon DOT approved container. These drums were properly labeled and will be stored on site until their proper disposition can be arranged.

Groundwater monitoring field logs are included in Appendix C.

## 1.3 Laboratory Analyses

The groundwater samples collected on April 7 and 8, 2008, were delivered to Argon Laboratories in Ceres, California (Certification Number 2359) for analysis.



The groundwater samples were analyzed for:

- Benzene, Toluene, Ethyl Benzene and Xylene (BTEX) by EPA method 8021B
- Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA method 8015M
- Oxygenated Fuel Compound MTBE by EPA method 8021B

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 1<sup>st</sup> Semiannual 2008 was submitted to GeoTracker on July 31, 2008 – confirmation number 7128690421. Due to system problems with GeoTracker, the laboratory data has not been uploaded for 1<sup>st</sup> Semiannual 2008. GTI will continue to attempt the upload and report the confirmation number in the next semiannual monitoring report.

However, the laboratory data for the 2<sup>nd</sup> Semiannual 2007 was submitted to Geotracker on February 4, 2008 – confirmation numbers 4167425990 & 6228514254.

#### **1.4 Supplemental Analyses of W-1 Groundwater Samples**

Per the direction of the City of Livermore, supplemental analysis of groundwater was performed to compare W-1 levels of various constituents to City of Livermore local limits, prior to discharge into the City of Livermore's sanitary sewer system. On February 14, 2008, unfiltered groundwater samples were collected from W-1 and delivered to Excelchem Environmental Labs (Certification Number 2119) for analysis.

The groundwater samples were analyzed for:

- Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Zinc) by EPA method 200.7
- Cyanide by method SM 4500-CN-F
- PH by EPA method 150.1
- Total Toxic Organics by EPA method 624

The results and detection limits for the above analysis are listed in Table 5 of Appendix A, and the lab analytical results are presented in Appendix B.

#### **1.5 Well Destruction**

GTI recommended the closure of several of the site's monitoring wells in our December 18, 2006 "Site Conceptual Model and Semi-Annual Groundwater Monitoring Report". The

ACEH approved the destruction of the wells in their January 16, 2007 letter correspondence, and directed that plans to destroy the wells be included as part of the Corrective Action Plan (CAP). The following is a description of the well destruction event that took place on April 14, 2008, where wells W-B, W-C, W-D and W-E (see Figure 2 for well locations) were destroyed, following the semi annual groundwater monitoring event.

- W-B: Since access to this well was limited, this well was destroyed by pressure grouting with neat cement augmented with less than 5% bentonite. After grouting, a pressure cap was fitted to the casing and air pressure (30 psi) was used to force the grout out of the casing and into the formation. The casing was cut off as deep as possible and then the well box filled and topped off with cement to match grade surface.
- W-C: Similar to W-B, due to access issues (location in an active traffic lane on L Street), this well was destroyed by pressure grouting except that asphalt patch materials were used to match grade surface instead of cement. Appropriate encroachment permits were obtained from the City of Livermore Public Works Department.
- W-D: Again, due to access issues, this well was destroyed by pressure grouting similar to well W-B above. The top of the well casing was removed as deep as possible and the well box/cement collar was removed by hand tools. Clean materials and neat cement were used to back fill the hole to grade.
- W-E: Similar to W-B, this well was destroyed by pressure grouting. The top five feet of the hole was over drilled using hollow stem auger to a depth of 5 feet below grade and the top of the casing was removed. Grout was added and allowed to spill over into the hole. Clean materials and neat grout were used to back fill the hole to grade and finished off with cement to match grade surface.

## 2.0 FINDINGS AND DISCUSSION

The results of the groundwater monitoring and sample analyses indicate the following:

### April 7 and 8, 2008-

- Shallow aquifer:
  - Well W-1s contained: 30,000 µg/l TPH-G, 2,600 µg/l benzene, 340µg/l toluene, 1,800µg/l ethyl benzene, and 1,700µg/l xylene.
  - Well W-3s was not sampled or sounded during this event due to obstructions covering wellhead.
  - Well W-Bs contained: 4,400 µg/l TPH-G, 410 µg/l benzene, 15µg/l toluene, 460 µg/l ethylbenzene, and 71 µg/l xylene.
  - Well W-Es did not contain BTEX, TPH-G and MTBE contamination above the laboratory reporting limits.



- Well MW-105 and 106 were not sampled during this event due to poor water production.
- MW-107 contained 18,000 µg/l TPH-G, 6,100 µg/l benzene, 700 µg/l toluene, 380 µg/l ethylbenzene, and 480 µg/l xylene.
- Well MW-108 contained 2,200 µg/l TPH-, 1,100 µg/l benzene, 24 µg/l toluene, 26 µg/l ethylbenzene and 140 µg/l xylene.
- Figure 6 is a contour map indicating GTI's interpretation of the shallow TPH-G plume in April 2008. The groundwater plume is localized in the vicinity of the former USTs/piping trenches.
- Intermediate aquifer:
  - MW-104 contained 32,000 µg/l TPH-G, 7,100 µg/l benzene, 1,400 µg/l toluene, 680 µg/l ethylbenzene, and 1,800 µg/l xylene.
  - Well MW-205 contained 31,000 µg/l TPH-G, 20,000 µg/l benzene, 640 µg/l toluene, 510 µg/l ethylbenzene, and 1,400 µg/l xylene.
  - Well MW-206 contained 60 µg/l TPH-G and 1.8 µg/l benzene.
  - MW-207 contained 32,000 µg/l TPH-G, 12,000 µg/l benzene, 350 µg/l toluene, 580 µg/l ethylbenzene, and 790 µg/l xylene.
  - MW-208 contained 19,000 µg/l TPH-G, 3,900 µg/l benzene, 230 µg/l toluene, 550 µg/l ethylbenzene, and 1,200 µg/l xylene.
  - Figure 7 is a contour map indicating GTI's interpretation of the intermediate aquifer TPH-G plume in April 2008. The groundwater plume is localized in the vicinity of the former USTs/piping trenches.
- Deep aquifer:
  - Well MW-204 contained 9,800 µg/l TPH-G, 1,800 µg/l benzene, 340 µg/l toluene, 520 µg/l ethyl benzene, and 560 µg/l xylene.
  - Well MW-305 contained 290 µg/l TPH-G, 42 µg/l benzene, 14 µg/l toluene, 8.1 µg/l ethyl benzene, and 28 µg/l xylene.
  - Well MW-306 did not contain any constituents tested for above laboratory reporting limits.
  - Well MW-307 contained 2,500 µg/l TPH-G, 720 µg/l benzene, 110 µg/l toluene, 69 µg/l ethylbenzene, and 160 µg/l xylene.
  - Well MW-308 contained 770 µg/l TPH-G, 150 µg/l benzene, 48 µg/l ethylbenzene, and 45 µg/l xylene.
  - Figure 8 is a contour map indicating GTI's interpretation of the deep aquifer TPH-G plume in April 2008. The groundwater plume is localized in the vicinity of the former USTs/piping trenches.
- Deepest aquifer wells:
  - Well MW-304 contained: 820 µg/l TPH-G, 100 µg/l benzene, and 36 µg/l toluene, 36 µg/l ethyl benzene, and 98 µg/l xylenes.

- Well MW-404 was not sampled during this event due to poor water production.
  - The vertical extent of the groundwater plume in these two deepest CMT™ well chambers is illustrated in Figure 9, Cross Section A-A' of Figure 9
- 
- Figure 10 illustrates TPH-G concentration versus time in well W-1s (located in the vicinity of the core of the contaminant plume). With the exception of events in 1997 and 2001 the contaminant concentrations display a declining trend. The two peaks evident in Figure 10 suggest that significant contaminant mass is present although decades have past since the original USTs were removed. TPH-G concentrations in the well have remained somewhat stable for the last three monitoring events.
  - Figure 11 illustrates TPH-G concentration versus time in well W-3s (located down/cross gradient of the core of the plume). The contaminant concentrations show a declining trend. W-3s was not sampled during this monitoring event.
  - Figure 12 illustrates TPH-G concentration versus time in well W-Bs (located down gradient of the core of the plume). The contaminant concentrations showed a declining trend from 1995 – 2003 but appear to have stabilized.
  - Obtaining valid water level measurements from the CMT™ wells remains problematic due to the clayey soils at the site. The clays clog the Waterra tubing and smear on the inside of the individual chambers. Some well elevations appear to be anomalous when utilizing computer-generated contours. Those points were removed in an attempt to accurately depict true groundwater gradient and direction.
  - Groundwater gradient and direction were variable in the intermediate wells during the April 2008 monitoring event. Wells W-A, MW-104, and MW-206 were used to determine groundwater gradient and direction for this monitoring event. Wells where anomalous water level measurements were detected were omitted from computer generated contouring. Figure 5B is a gradient map showing GTI interpretation of groundwater movement and gradient.
  - The deep level aquifer had a northeasterly direction as monitored in CMT™ wells MW-204, MW-305, MW-306, MW-307 and MW-308. See Figure 5C.

### **Supplemental Analysis of W-1 Groundwater Sample**

- Per the direction of the City of Livermore, supplemental analysis of groundwater samples was performed for comparison to City of Livermore local limits prior to discharge to the City's sanitary sewer system.
- Groundwater samples were collected on February 14, 2008 and analyzed for metals, cyanide, pH, and volatile organic compounds.
- pH was reported to be 6.57.
- Analytical laboratory data results were compared to City of Livermore Local Limits
- As shown on the following page, the groundwater samples contained levels that were below the City of Livermore Local Limits, with the exception of Total Toxic Organics, which exceeded the Local Limit of 1.00 mg/L (or 1,000 µg/L). Per the Corrective Action

Plan, the extracted groundwater will pass through a treatment system, such that any discharge to the City sanitary sewer system is expected to be well below the Local Limit. During the remediation system start up and operation, effluent will be monitored on a regular basis to ensure compliance with the TTO limit.



Compound	City of Livermore Local Limits		W-1 Analytical Data
	(mg/L)	(µg/L)	
pH	6.0 –9.0	S.U.	6.57
Arsenic	0.06	60	3.5
Cadmium	0.14	140	ND
Chromium	0.62	620	36.2
Copper	1.00	1,000	29.4
Lead	0.20	200	22.9
Mercury	0.01	10	ND
Nickel	0.61	610	115
Silver	0.20	200	ND
Zinc	3.00	3,000	46
Cyanide	0.04	40	ND
TTO	1.00	1,000	<b>GT 22,000</b>

ND = not detected above reporting limit

GT = greater than

### 3.0 CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

1. Elevated concentrations of BTEX and TPH-G are present in a laterally limited (probably less than 300 foot radius) groundwater plume that is centered in the vicinity of wells W-1 & W-1s.
2. The highest level of TPH-G detected, 32,000 ug/l, was present in intermediate depth well MW-104. This well is located just down gradient of the former UST system from which the Pitcock release originated.
3. The lateral extent of the TPH-G plume is defined to the west by well W-Es.
4. The center of the plume has not migrated beyond the source area providing evidence that the plume is degrading as it migrates laterally by advective flow.
5. The data shows that the core of the plume is fairly stable, with concentrations decreasing very slowly by either natural biodegradation causes or by dilution effects.
6. Supplemental analysis of groundwater samples show pH, metals and cyanide levels that are within the acceptable range or below sanitary sewer discharge limits for the City of Livermore.

#### Recommendations

- Maintain the current semi-annual monitoring schedule.

- Continue the process of developing and purging the CMT™ well chambers to clear them of clay residue/smear that precludes recharge and water level monitoring.
- Continue implementation of the Corrective Action Plan (CAP) that includes provisions for performing dual phase extraction to treat the residual contamination at the site, which has received approval from ACEH and cost pre-approval from the UST Cleanup Fund.

#### **4.0 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.

## 5.0 SIGNATURES & CERTIFICATION

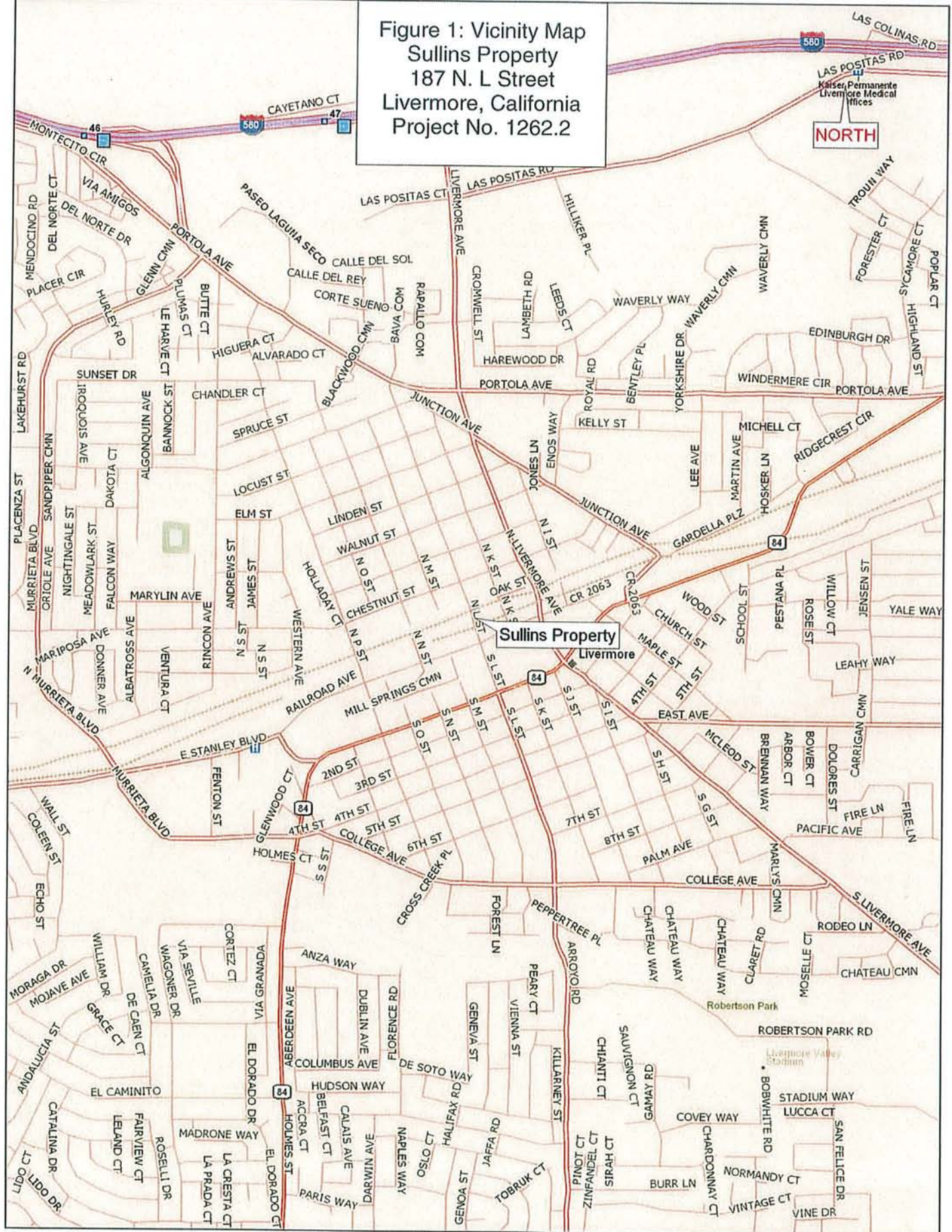
This report was prepared under the direction of:



Tamorah Bryant, P.E.



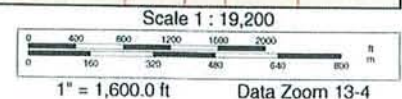
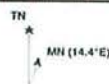
Figure 1: Vicinity Map  
Sullins Property  
187 N. L Street  
Livermore, California  
Project No. 1262.2



Data use subject to license.

© 2006 DeLorme. Street Atlas USA® 2007.

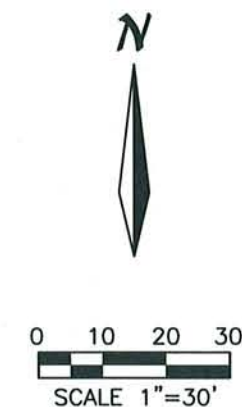
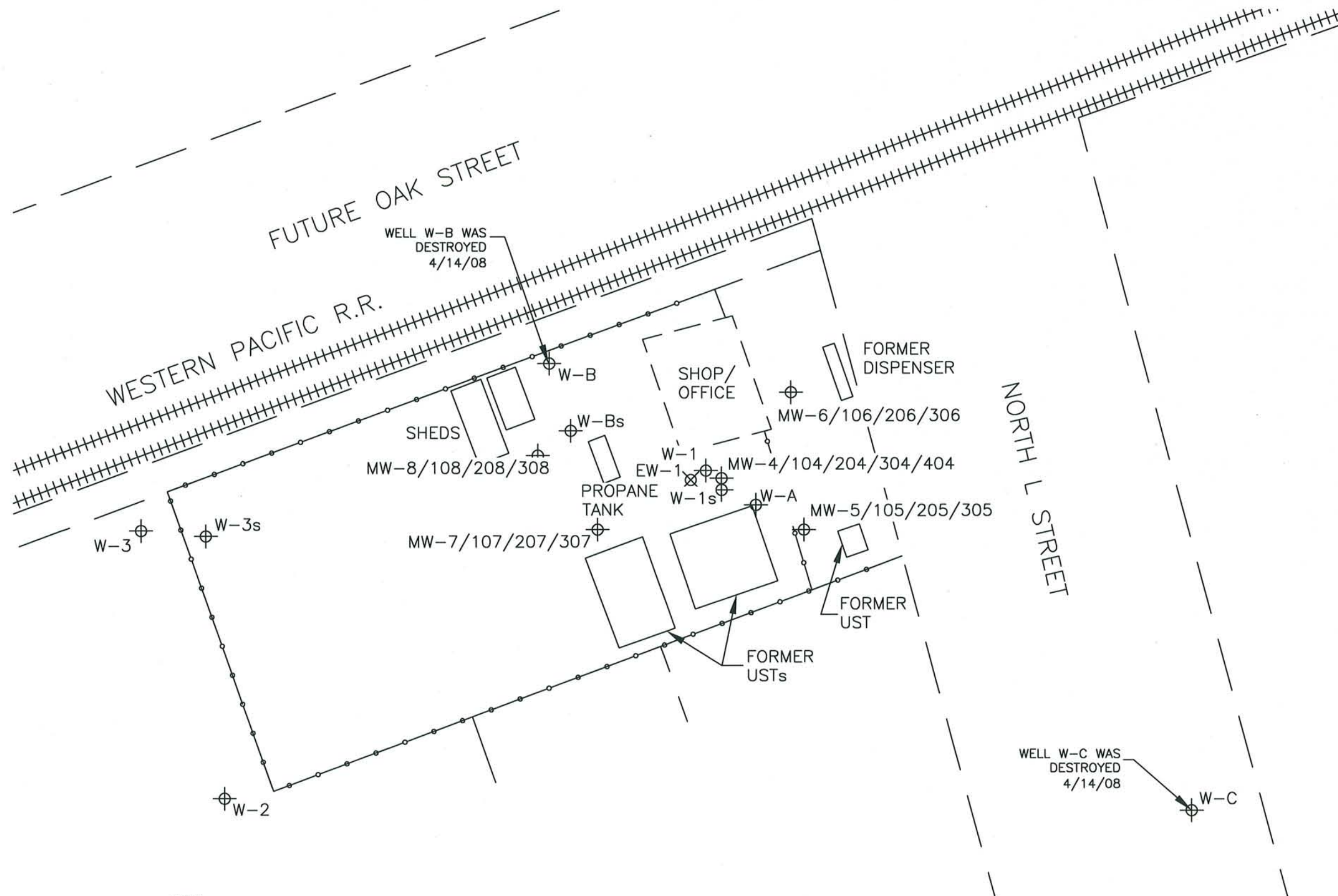
www.delorme.com











# 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:	TB
Job No:	1262.2 Date: 7/14/08
Scale:	NTS
File:	12622 base map 0807 revised

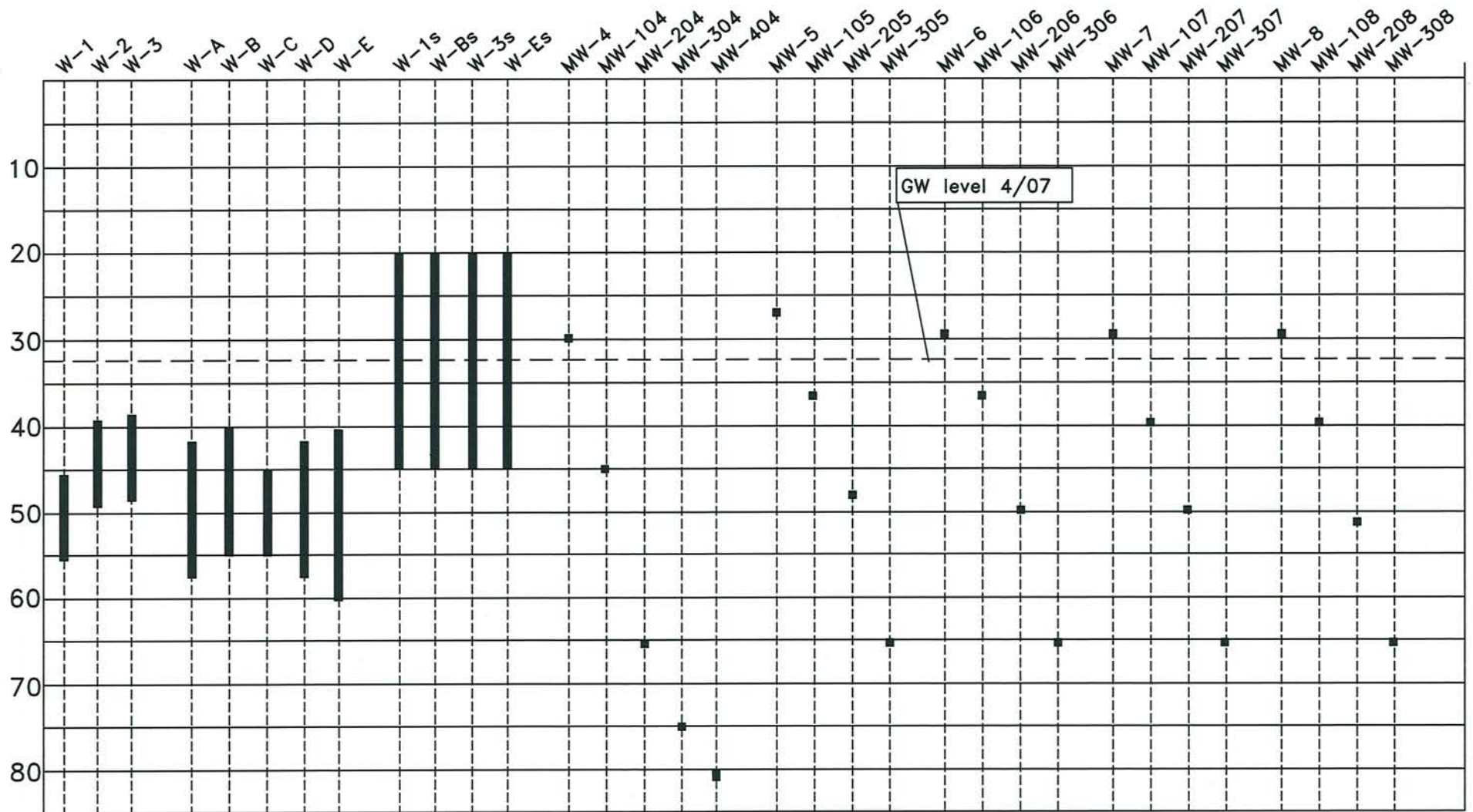
**Geological Technics, Inc.**

1101 7th Street  
Modesto, CA  
95354  
209.522.4119 (tel)  
209.522.4227 (fax)

**FIGURE 3: SITE DETAIL MAP**

ARROW RENTALS  
187 NORTH L STREET  
LIVERMORE, CA

Fig 4: Well  
Screened Interval  
Diagram

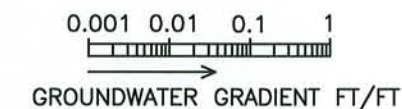
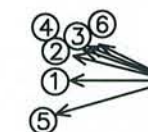


Sullins  
187 North L Street  
Livermore, CA



	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

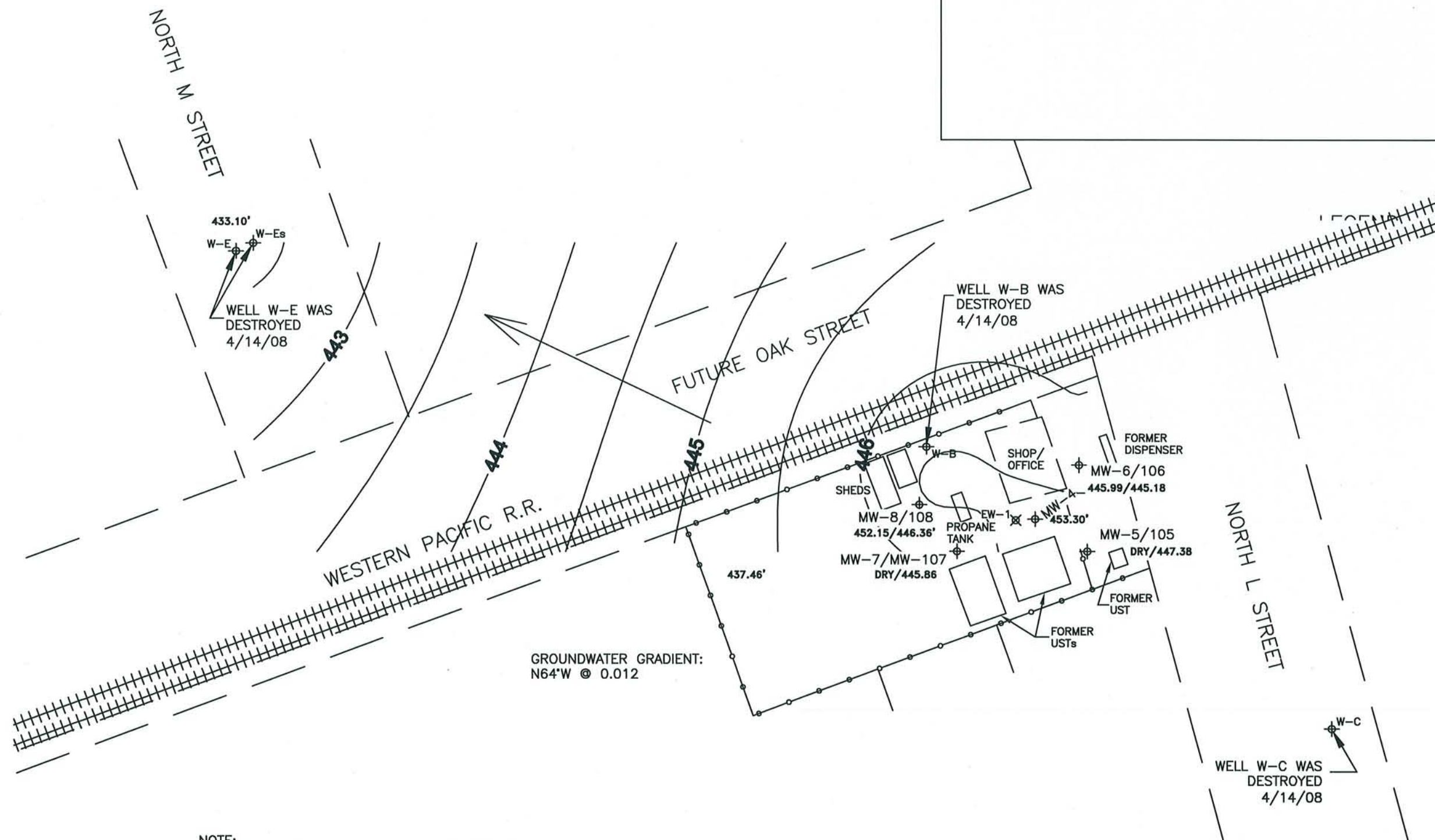
ROSE DIAGRAM



# LEGEND

- ⊕ MONITORING WELL
- ⊗ EXTRACTION WELL

GRADIENT CALCULATED BY  
COMPUTER GENERATED CONTOURS  
GROUNDWATER ELEV. -33.66'  
CONTOUR INTERVAL = 0.5 FOOT

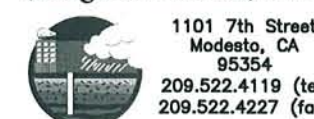


**NOTE:**  
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STREET RIGHT OF WAY IS APPROXIMATE, BASED ON  
ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED  
BY WOODWARD-CLYDE CONSULTANTS

By:	TB
Job No:	1262.2 Date: 7/14/08
Scale:	NTS
File:	12622 base map 0807 revised

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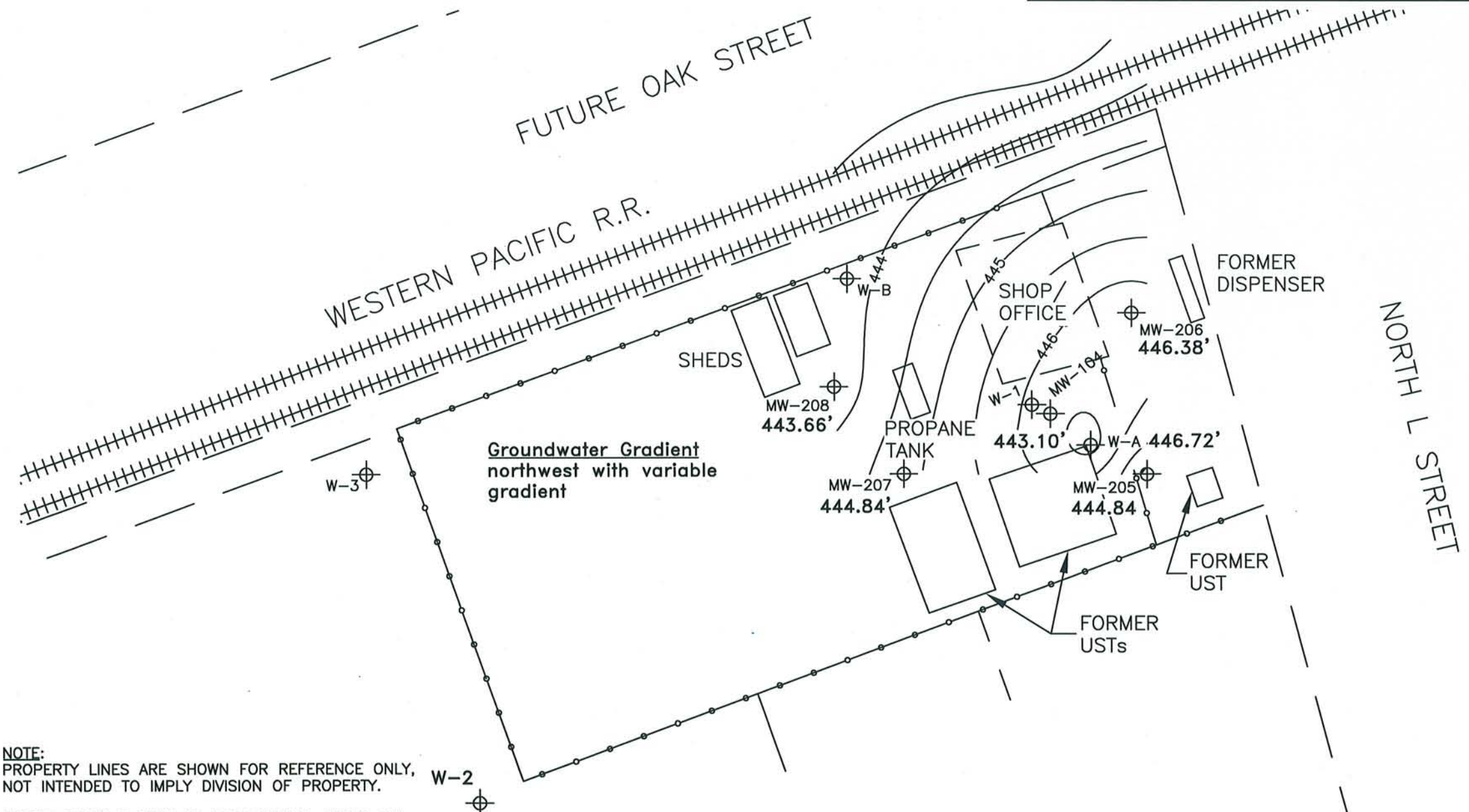
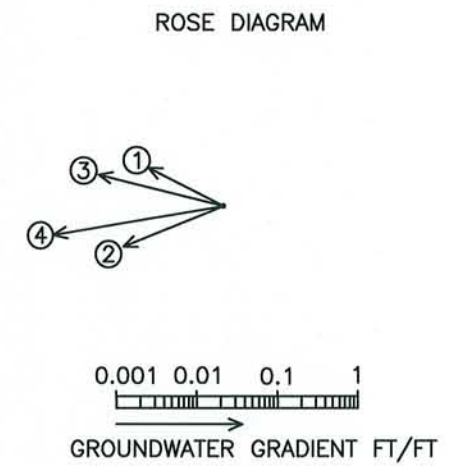
1101 7th Street  
Modesto, CA  
95354  
209.522.4119 (tel)  
209.522.4227 (fax)

**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



- LEGEND**
- ⊕ MONITORING WELL
  - ⊗ EXTRACTION WELL
  - GRADIENT CALCULATED BY COMPUTER GENERATED CONTOURS
  - GROUNDWATER ELEV. -33.66'
  - CONTOUR INTERVAL = 0.5 FEET

**NOTE:**  
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WELLS MW-205, -207, AND -208 LEFT OUT OF GRADIENT  
CALCULATIONS DUE TO ANOMALOUS VALUES

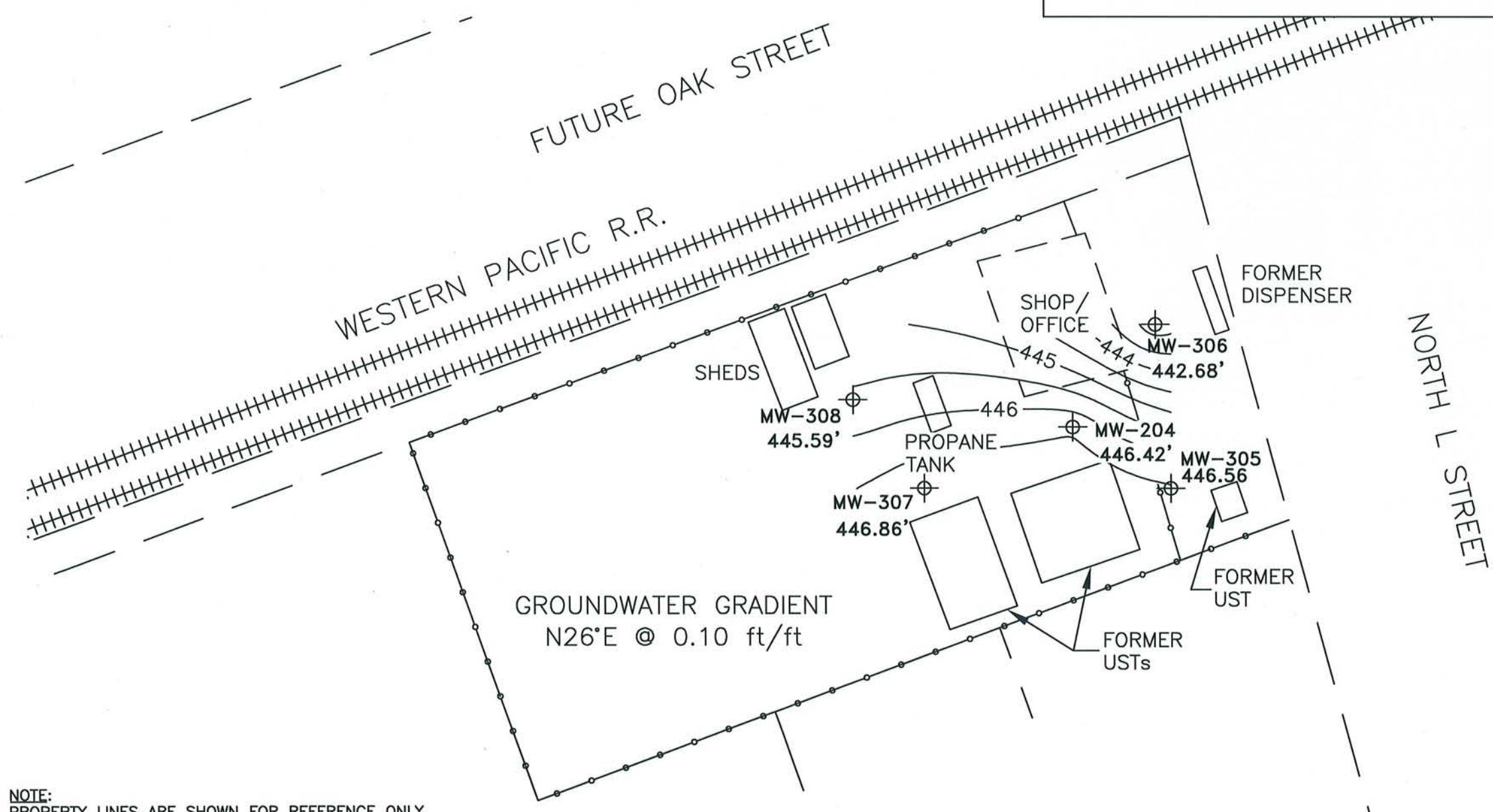
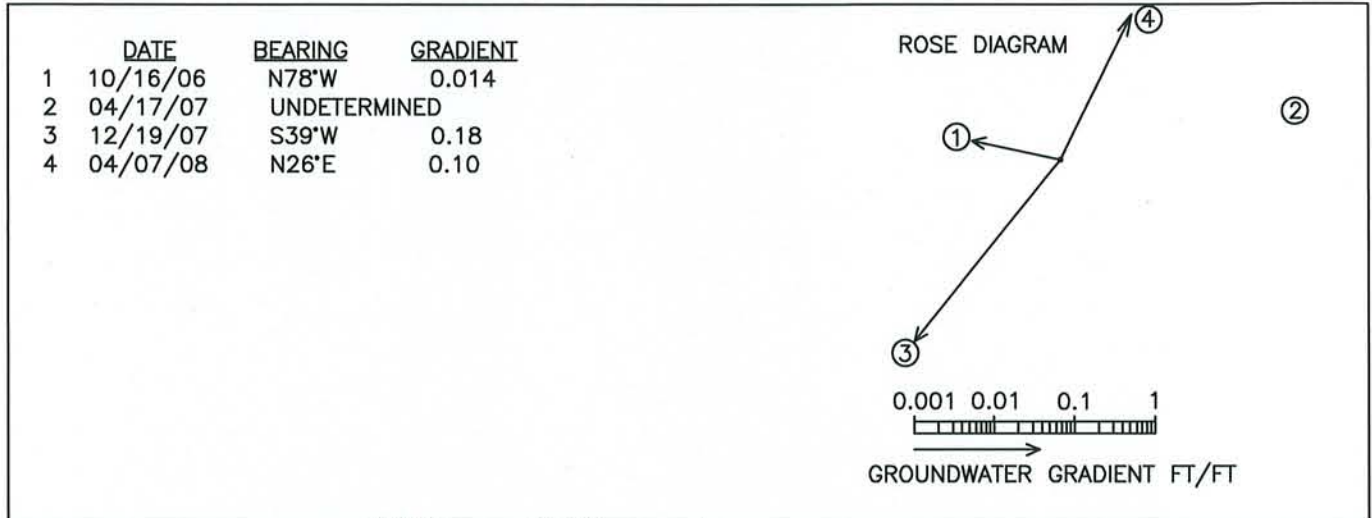
By:	TB
Job No:	1262.2 Date: 7/23/08
Scale:	NTS
File:	12622 base map 0807 revised

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**FIGURE 5B: GROUNDWATER GRADIENT MAP  
INTERMEDIATE WELLS**

**ARROW RENTALS**  
187 NORTH L STREET  
LIVERMORE, CA



**LEGEND**

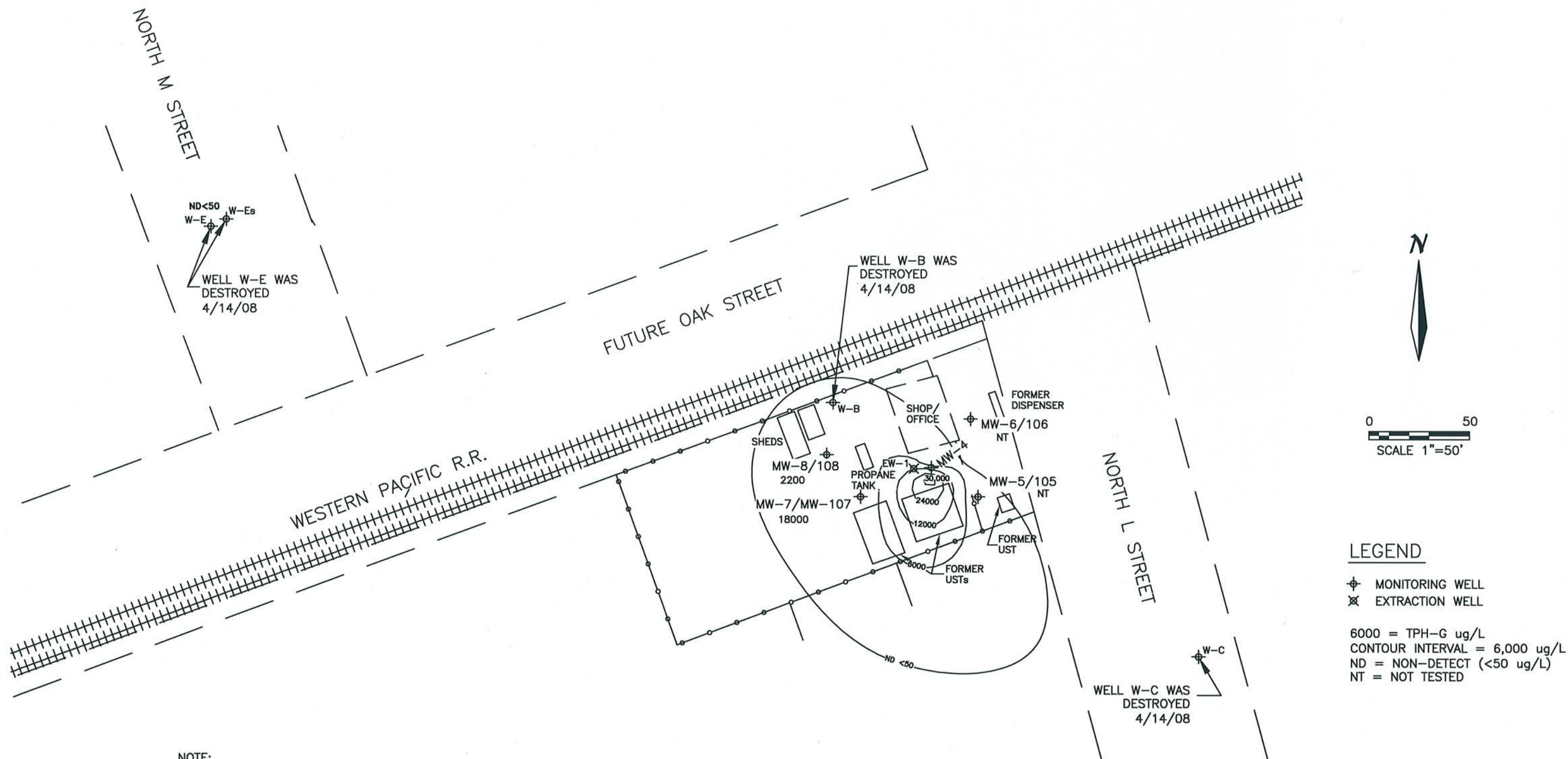
⊕ MONITORING WELL  
 ⊗ EXTRACTION WELL

GRADIENT CALCULATED BY  
 COMPUTER GENERATED CONTOURS  
 GROUNDWATER ELEV. -33.66'  
 CONTOUR INTERVAL = 0.5 FEET

**NOTE:**  
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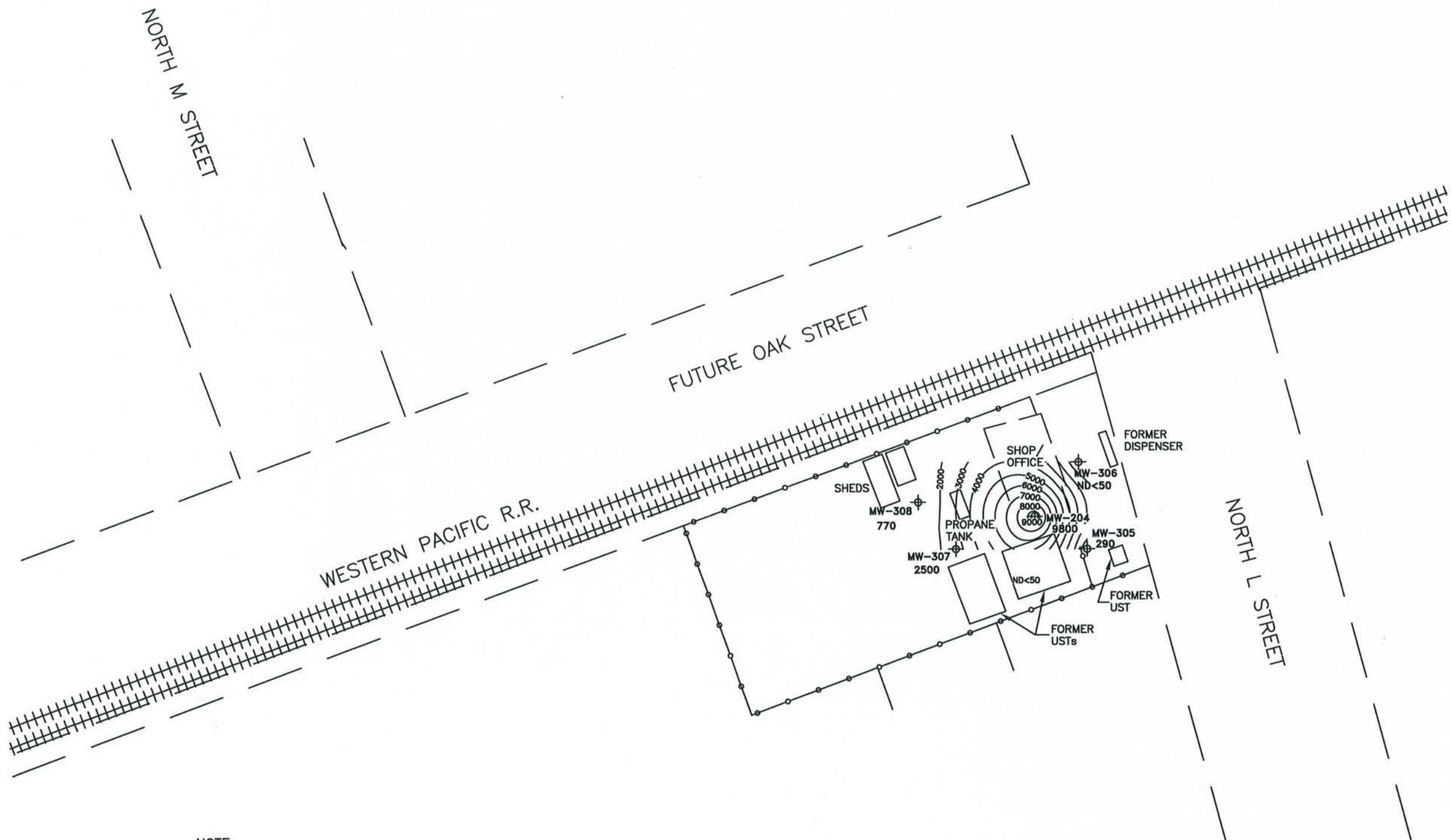
By:	TB
Job No:	1262.2 Date: 7/14/08
Scale:	NTS
File:	12622 base map 0807 revised

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**FIGURE 6: SHALLOW WELL APRIL 2008  
 TPH-G CONCENTRATIONS**  
**ARROW RENTALS**  
 187 NORTH L STREET  
 LIVERMORE, CA







0 50  
SCALE 1"=50'

**LEGEND**

⊕ MONITORING WELL  
 ✕ EXTRACTION WELL

2500 = TPH-G ug/L  
 CONTOUR INTERVAL = 1,000 ug/L  
 ND = NON-DETECT (<50 ug/L)  
 NT = NOT TESTED

**NOTE:**  
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 ASSESSOR'S PARCEL MAPS AND INFORMATION PROVIDED  
 BY WOODWARD-CLYDE CONSULTANTS

By:	TB
Job No:	1262.2 Date: 7/14/08
Scale:	NTS
File:	12622 base map 0807 revised

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**FIGURE 8: DEEP WELL APRIL 2008  
 TPH-G CONCENTRATIONS**

**ARROW RENTALS**  
 187 NORTH L STREET  
 LIVERMORE, CA







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

Figure 10: TPH-G vs. Time Well W-1s

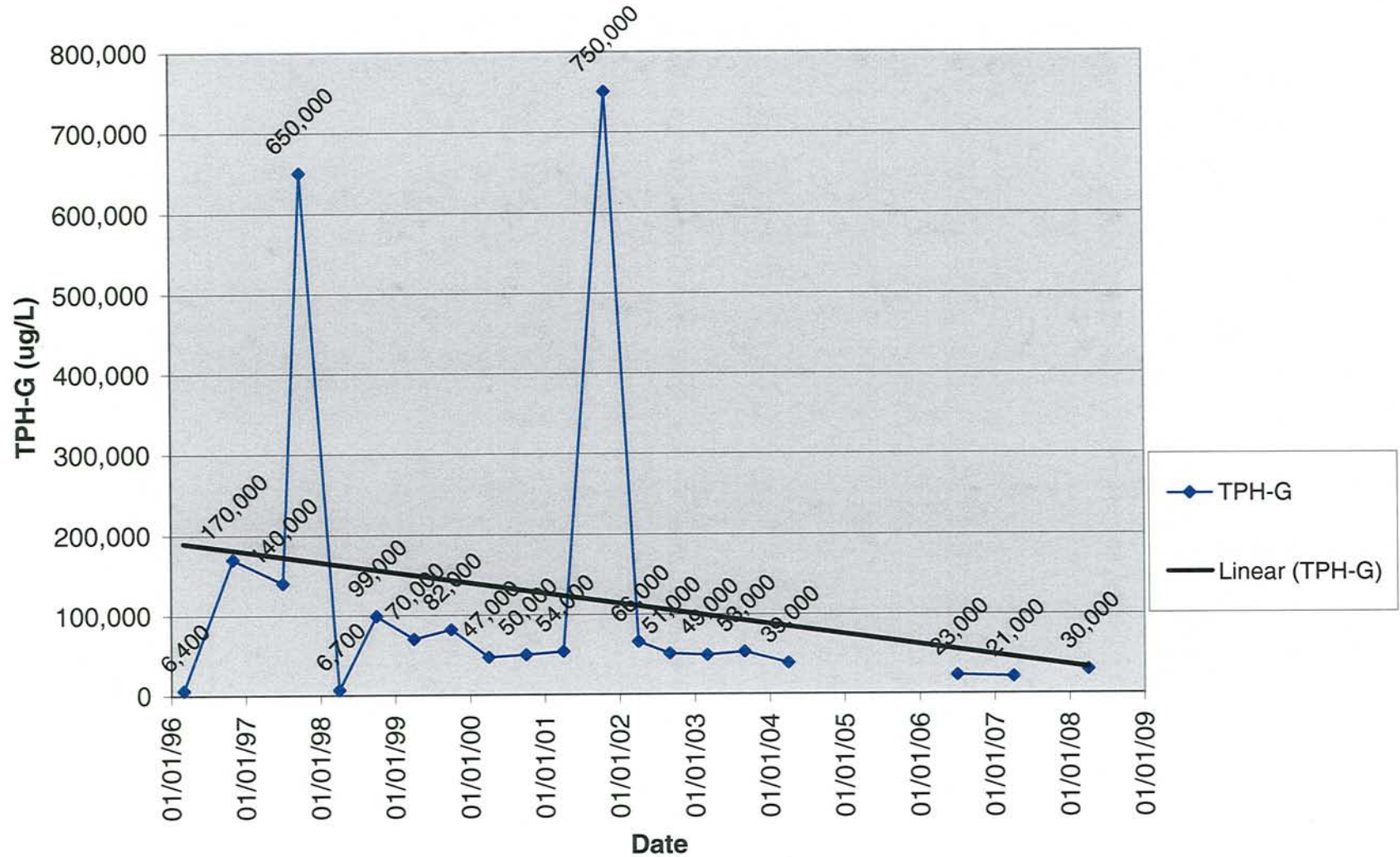
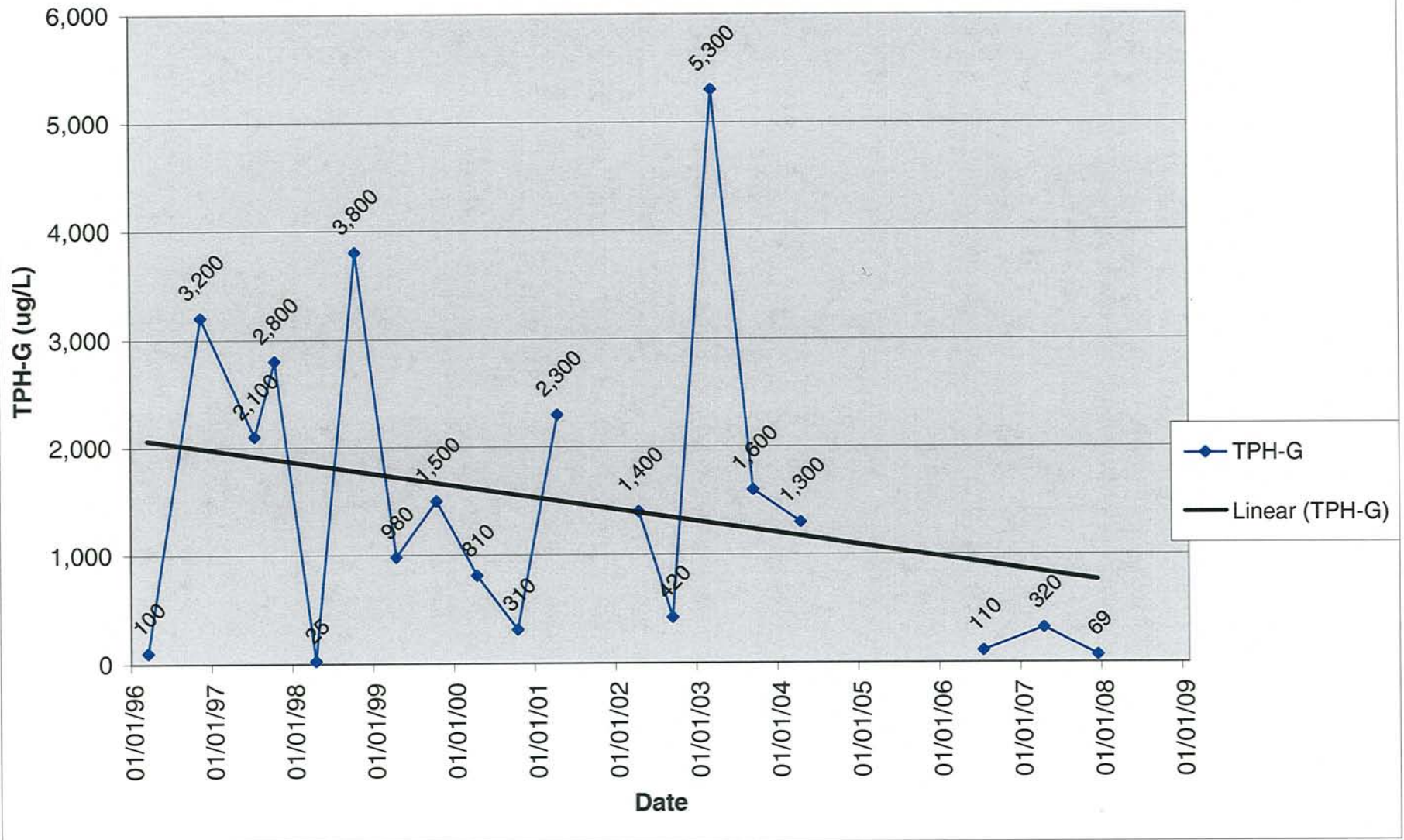
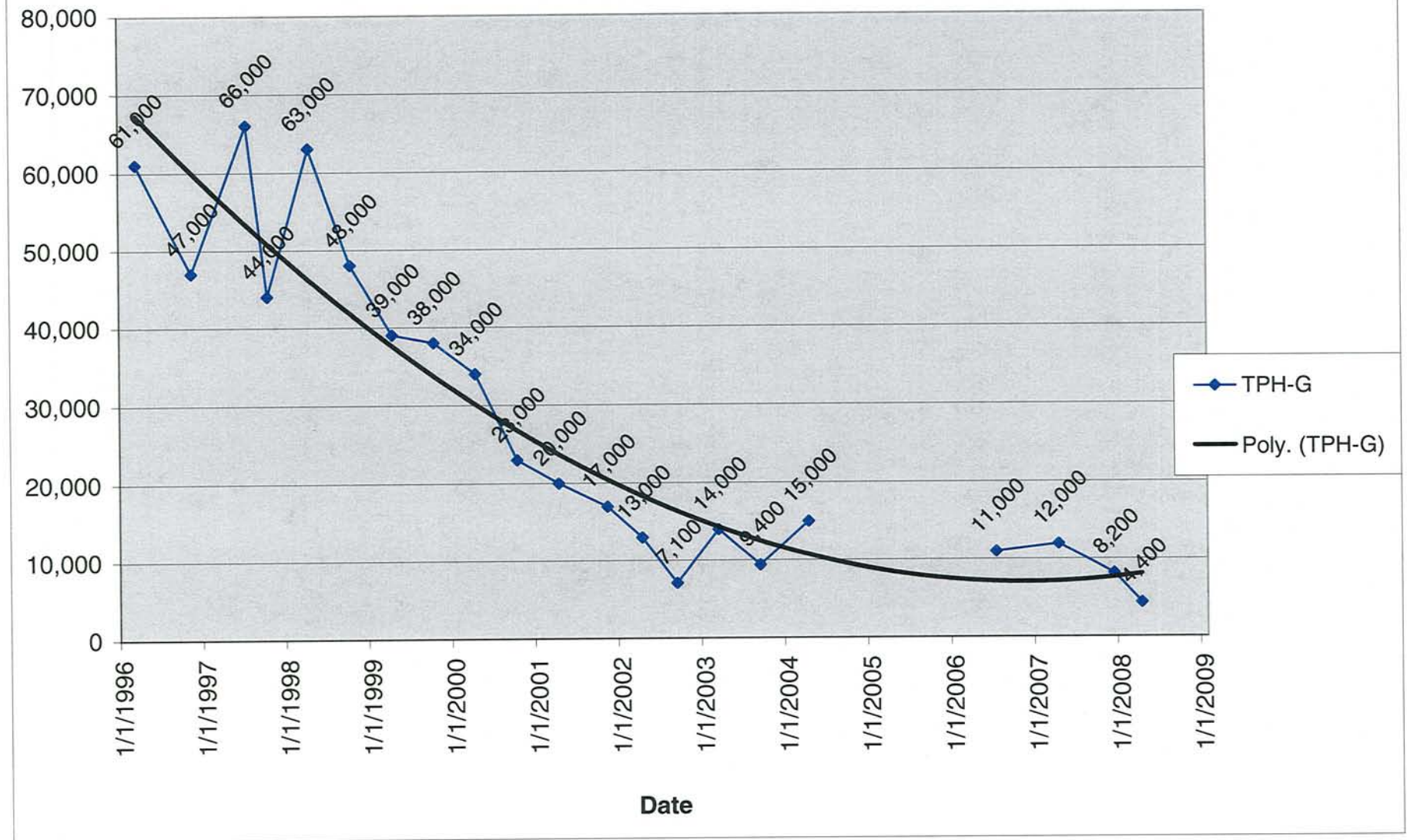


Figure 11: TPH-G vs. Time Well W-3s



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

Figure 12: TPH-G vs. Time Well W-Bs





# **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. (feet)	Avg. DTW (feet)	Gradient (ft/ft)	Bearing
		W-1s	W-3s	W-Bs	W-Es												
	top of casing	479.09	476.98	478.82	474.66												
	top of screen	459.09	456.98	458.82	454.66												
	bottom of screen	434.09	431.98	433.82	429.66												
7/15/97		448.68	447.81	449.20	443.20												
10/29/97		442.64	441.53	442.19	437.98												
4/27/98		460.48	457.25	459.96	455.39												
10/23/98		445.11	444.01	445.60	440.16												
4/9/99		453.14	451.02	452.78	447.25												
10/5/99		446.66	445.20	446.72	441.47												
4/5/00		453.12	451.96	453.77	448.04												
10/26/00		447.91	446.50	448.14	442.43												
4/18/01		447.80	446.51	446.89	442.63												
11/13/01		435.69	433.32	443.59	431.05												
4/30/02		441.80	439.19	441.50	437.09												
9/30/02		439.17	437.01	439.39	434.50												
3/19/03		446.83	445.03	446.74	441.80												
9/16/03		440.88	438.50	441.40	436.14												
4/29/04		448.99	447.39	448.83	443.43									447.16	30.23	0.019	West
7/7/06		450.40	448.61	450.25	444.21									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												Avg. Elv. (feet)	Avg. DTW (feet)	Gradient (ft/ft)	Bearing
		W-1s	W-3s	W-Bs	W-Es	MW-4	MW-5	MW-6	MW-7	MW-8	MW-105	MW-106	MW-107	MW-108			
	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	459.12	460.92	456.78	451.84	455.12	451.79	451.91	451.64	445.12	444.79	441.91	441.64			
	bottom of screen	436.19	434.12	435.92	431.78	450.84	454.12	450.79	450.91	450.64	444.12	443.79	440.91	440.64			
10/16/06		447.81	446.17	447.93	442.75	-	-	-	-	-	447.97	447.11	446.77	446.34	446.61	33.58	0.014 N68°W
4/17/07		449.64	448.35	449.51	444.58	454.09	-	-	-	-	-	-	448.92	-	448.20	31.58	0.016 N71°W
12/19/07		438.88	437.46	444.51	433.10	-	-	-	-	-	-	443.07	442.26	442.60	440.27	39.78	0.033 S74°W
4/7/08		446.97	-	446.76	442.34	453.30	-	445.99	-	452.15	447.38	445.18	445.86	446.36	447.23	33.23	0.012 N64°W

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

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

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

Elevation of Groundwater - Wells Surveyed Octpber 16, 2006 in accordance with SWRCB Geotracker Requirements															
Date		W-A	W-B	W-C	W-D	W-E	MW-104	MW-205	MW-206	MW-207	MW-208	Avg. Elv.	Avg. DTW	Gradient	Bearing
												(feet)	(feet)	(ft/ft)	
	top of casing	481.04	480.74	481.61	477.03	476.56	480.84	481.12	480.79	480.91	480.64				
	top of screen	439.04	440.74	436.61	435.03	436.06	431.34	434.12	431.79	431.91	429.64				
	bottom of screen	423.54	425.74	426.61	419.53	416.26	430.34	433.12	430.79	430.91	428.64				
10/16/2006		-	-	-	-	442.63	444.85	446.75	447.03	446.27	445.12	445.44	34.70	0.012	N63°W
4/17/2007		-	-	-	-	-	-	-	448.57	447.13	447.05	447.58	33.20	0.022	S68°W
12/19/2007		438.36	-	-	-	-	435.98	-	436.10	434.33	433.92	435.74	45.11	0.04	N76°W
4/7/2008		446.72	-	-	-	-	443.10	444.84	446.38	444.84	443.66	444.92	35.97	northwest	variable

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



**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											
		MW-204	MW-305	MW-306	MW-307	MW-308	Avg. Elv.	Avg. DTW	Gradient	Bearing	MW-304	MW-404
	<i>top of casing</i>	480.84	481.12	480.79	480.91	480.64	(feet)	(feet)	(ft/ft)		480.84	480.84
	<i>top of screen</i>	415.34	416.12	415.79	415.91	415.64					406.34	400.84
	<i>bottom of screen</i>	414.34	415.12	414.79	414.91	414.64					405.34	399.34
10/16/2006		447.09	447.44	447.29	446.63	446.37	446.96	33.90	0.014	N78°W	442.76	444.37
4/17/2007		-	448.49	449.08	-	-	448.79	32.17	-	-	-	448.82
12/19/2007		435.73	-	443.19	435.20	434.93	437.26	43.53	0.18	S39°W	435.45	435.51
4/7/2008		446.42	446.56	442.68	446.86	445.59	445.62	35.24	0.1	N26°E	441.42	446.18

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

Table 2

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	0.14
	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	0.04
	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	-0.18
	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	0.03
	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	-0.03
	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	0.01
	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	0.05
	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	-0.56
	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	0.10
	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	-0.23
	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	0.13
	MW-307	415.41	415.91	414.91	446.86			



**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	destroyed	7/13/1990	55	12	4	PVC	0.010	#2/12	55	40	55	32	32	30	30	S
Monitoring	W-C	destroyed	7/11/1990	55	8	2	PVC	0.010	#2	55	45	55	37.5	37.5	35	35	S
Monitoring	W-D	destroyed	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	destroyed	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



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	-	-	-	-	-	-
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	-	-	-	-	-	-
W-3	11/1988 (?)	11,000	2,200	290	120	150	140	-	-	-	-	-	-	-
	9/13/1995	27,000	-	5,600	290	460	280	<2500	-	-	-	-	-	-
W-A (dup)	1990	10,000	2,400	6,800	5,500	620	3,400	-	-	-	-	-	-	-
	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	-	-	-	-	-	-
W-B (dup)	1990	13,000	1,700	22,000	7,900	2,000	4,000	-	-	-	-	-	-	-
	1990	21,000	1,600	21,000	7,300	1,800	3,700	-	-	-	-	-	-	-
W-C	1990	<10	<100	<1	<1	<1	<1	-	-	-	-	-	-	-
W-D	1990	100	<100	1	2	2	1	-	-	-	-	-	-	-
W-E	1990	<10	<100	<1	<1	<1	<1	-	-	-	-	-	-	-
	9/13/1995	95	-	4	<0.5	<0.5	<0.5	18	-	-	-	-	-	-
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	-	-	-	-	-	-

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	-	-	-	-	-	-
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	-	-	-	-	-	-
W-3	11/1988 (?)	11,000	2,200	290	120	150	140	-	-	-	-	-	-	-
	9/13/1995	27,000	-	5,600	290	460	280	<2500	-	-	-	-	-	-
W-A (dup)	1990	10,000	2,400	6,800	5,500	620	3,400	-	-	-	-	-	-	-
	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	-	-	-	-	-	-
W-B (dup)	1990	13,000	1,700	22,000	7,900	2,000	4,000	-	-	-	-	-	-	-
	1990	21,000	1,600	21,000	7,300	1,800	3,700	-	-	-	-	-	-	-
W-C	1990	<10	<100	<1	<1	<1	<1	-	-	-	-	-	-	-
W-D	1990	100	<100	1	2	2	1	-	-	-	-	-	-	-
W-E	1990	<10	<100	<1	<1	<1	<1	-	-	-	-	-	-	-
	9/13/1995	95	-	4	<0.5	<0.5	<0.5	18	-	-	-	-	-	-
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	-	-	-	-	-	-



Table 4: Summary of Groundwater Analytical Data

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

Wells	Date	TPH	TPH	Benzene	Toluene	Ethyl	Total	MTBE	ETBE	DIPE	TAME	TBA	1,2 DCA	EDB
		Gasoline	Diesel	ug/L	ug/L	Benzene	Xylenes	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		ug/L	ug/L			ug/L	ug/L							
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	-	-	-	-	-	-
	9/30/2002	420	390	68	1.4	3.1	1.1	<5	-	-	-	-	-	-
	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	-	-	-	-	-	-
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	-	-	-	-	-	-



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	-	-	-	-	-	-
	9/16/2003	-	-	-	-	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-
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						
MW-5	10/16/2006							DRY						
	4/17/2007							DRY						
	12/19/2007							DRY						
MW-6	10/16/2006							DRY						
	4/17/2007							DRY						
	12/19/2007							DRY						
MW-7	10/16/2006							DRY						
	4/17/2007							DRY						
	12/19/2007							DRY						
MW-8	10/16/2006							DRY						
	4/17/2007							DRY						
	12/19/2007							DRY						

Table 4: Summary of Groundwater Analytical Data

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

Wells	Date	TPH	TPH	Benzene	Toluene	Ethyl	Total	MTBE	ETBE	DIPE	TAME	TBA	1,2 DCA	EDB
		Gasoline ug/L	Diesel ug/L	ug/L	ug/L	Benzene ug/L	Xylenes ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-104	10/19/2006	960	-	250	170	20	83	-	-	-	-	-	-	-
	4/19/2007	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	-	-	-	-	-	-
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												
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												
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-

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-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	-	-	-	-	-	-
	4/8/2008	820	-	100	36	36	98	<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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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	-	-	-	-	-	-
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												

pre- 2006 data adapted from *Environmental Sampling Services* 5/27/04 Groundwater Monitoring Report

\*- = not analyzed



**Table 5: Summary of Supplemental Analysis of W-1 Groundwater Sample**

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

Wells	Date	Ph	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc	Cyanide	Benzene	Toluene	Ethylbenzene	Xylenes, Total
		Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
W-1	2/13/08	6.57	35	ND	36.2	29.4	22.9	ND<0.2	115	ND<20	46	ND<20	22,100	20,800	3,000	16,000

## **Appendix B**

### **Laboratory Analytical Data Sheets**

# argon laboratories

15 April 2008

Ray Kablanow  
Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

RE: Sullins Project Data

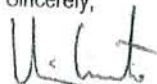
Enclosed are the results for sample(s) received on 04/09/08 12:15 by Argon Laboratories. The sample(s) were analyzed according to instructions in accompanying chain-of-custody. Results are summarized on the following pages.

Please see quality control report for a summary of QC data pertaining to this project.

The sample(s) will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Sample(s) may be archived by prior arrangement.

Thank you for the opportunity to service the needs of your company.

Sincerely,



Hiram Cueto  
Lab Manager



# Geological Technics Inc.

1101 7th Street  
Modesto, CA  
(209) 522-4119 Fax 522-4227  
E-mail: gti@geologicaltechnics.com

Page 1 of 2



## Chain of Custody

Project #:				Client/Project Name:				No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested										Laboratory:		
12622				Sallins							TPU-6 (8015M) ** BTEX (8021) ** M+B (8021) **										IE04027		
Site Address:				Global ID No.:				Sampled By: (print and sign name)				Temp. @ Shipping:		Temp. @ Lab Receipt:		Purchase Order #		EDF Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Turnaround Time: <u>S</u> = Standard			
187 North L St.				T0600100116				Daniel Villanueva				C°		C°		1262-658077				1 day 2 day 5 day			
Date	Time	Field I.D.	Sample I.D.	Remarks																			
4/8/08	1005		MW-107	2	W	HCL	X	X	X												-01	** 2L 50 ug/l	
4/8/08	1110		MW-304	4	W	HCL																-02	
4/8/08	1200		MW-104	4	W	HCL																-03	** 2L 0.5 ug/l
4/8/08	1230		MW-Bs	4	W	HCL																-04	
4/8/08	1310		MW-305	4	W	HCL																-05	
4/8/08	0950		MW-108	4	W	HCL																-06	
4/8/08	0907		MW-206	4	W	HCL																-07	
4/8/08	1320		MW-205	4	W	HCL																-08	
4/8/08	0900		MW-208	4	W	HCL																-09	
4/8/08	1335		W-15	4	W	HCL																-10	
4/8/08	1130		MW-204	4	W	HCL																-11	
4/7/08	1045		W-Es	4	W	HCL																-12	
4/7/08	1447		MW-306	4	W	HCL																-13	
4/7/08	1420		MW-308	4	W	HCL																-14	

Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:
<i>[Signature]</i>	4/8/08	1700	<i>[Signature]</i>	4/9/08	800
Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:
<i>[Signature]</i>	4/9/08	1215	<i>[Signature]</i>	4/9/08	1215
Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:

Please return cooler/ice chest to Geological Technics Inc.

Rev. 7/2007



## Chain of Custody

Rev. 7/2007

# Argon Laboratories Sample Receipt Checklist

Client Name: Geological Technics, Inc. Date & Time Received: 04/09/08 12:15

Project Name: Sullins Client Project Number: 1262.2

Received By: S.H. Matrix: Water ☒ Soil ☐ Sludge ☐

Sample Carrier: Client ☐ Laboratory ☒ Fed Ex ☐ UPS ☐ Other ☐

Argon Labs Project Number: 1804027

Shipper Container in good condition? N/A ☐ Yes ☒ No ☐ Samples received in proper containers? Yes ☒ No ☐

Samples received under refrigeration? Yes ☒ No ☐ Samples received intact? Yes ☒ No ☐

Chain of custody present? Yes ☒ No ☐ Sufficient sample volume for requested tests? Yes ☒ No ☐

Chain of Custody signed by all parties? Yes ☒ No ☐ Samples received within holding time? Yes ☒ No ☐

Do samples contain proper preservative? N/A ☐ Yes ☒ No ☐

Chain of Custody matches all sample labels? Yes ☒ No ☐ Do VOA vials contain zero headspace? (None submitted ☐) Yes ☒ No ☐

ANY "No" RESPONSE MUST BE DETAILED IN THE COMMENTS SECTION BELOW

Date Client Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Subject: \_\_\_\_\_

Comments:

Action Taken:

ADDITIONAL TEST(S) REQUEST / OTHER

Contacted By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Call Received By: \_\_\_\_\_

Comments:





Geological Technics, Inc.

1101 7th Street

Modesto, CA 95354

Project Number: 1262.2

Project Name: Sullins

Project Manager: Ray Kablanow

Work Order No.:

1804027


**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-107	1804027-01	Water	04/08/08 10:05	04/09/08 12:15
MW-304	1804027-02	Water	04/08/08 11:10	04/09/08 12:15
MW-104	1804027-03	Water	04/08/08 12:00	04/09/08 12:15
MW-B s	1804027-04	Water	04/08/08 12:30	04/09/08 12:15
MW-305	1804027-05	Water	04/08/08 13:10	04/09/08 12:15
MW-108	1804027-06	Water	04/08/08 09:50	04/09/08 12:15
MW-206	1804027-07	Water	04/08/08 09:07	04/09/08 12:15
MW-205	1804027-08	Water	04/08/08 13:20	04/09/08 12:15
MW-208	1804027-09	Water	04/08/08 09:00	04/09/08 12:15
W-1 s	1804027-10	Water	04/08/08 13:35	04/09/08 12:15
MW-204	1804027-11	Water	04/08/08 11:30	04/09/08 12:15
W-E s	1804027-12	Water	04/07/08 10:45	04/09/08 12:15
MW-306	1804027-13	Water	04/07/08 14:47	04/09/08 12:15
MW-308	1804027-14	Water	04/07/08 14:20	04/09/08 12:15
MW-207	1804027-15	Water	04/07/08 15:15	04/09/08 12:15
MW-307	1804027-16	Water	04/07/08 15:00	04/09/08 12:15

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

Project Number: 1262.2  
Project Name: Sullins  
Project Manager: Ray Kablanow

Work Order No.:  
1804027

**TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B**

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
<b>MW-107 (1804027-01) Water Sampled: 08-Apr-08 10:05 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>18000</b>	<b>500</b>	<b>ug/L</b>	<b>10</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	6100	5.0	"	"	"	"	
Toluene	700	5.0	"	"	"	"	
Xylenes (total)	480	10	"	"	"	"	
Ethylbenzene	380	5.0	"	"	"	"	
Methyl-t-butyl ether	ND	50	"	"	"	"	
Surr. Rec.:		111 %			"	"	
<b>MW-304 (1804027-02) Water Sampled: 08-Apr-08 11:10 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>820</b>	<b>50</b>	<b>ug/L</b>	<b>1</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	100	0.5	"	"	"	"	
Toluene	36	0.5	"	"	"	"	
Xylenes (total)	98	1.0	"	"	"	"	
Ethylbenzene	36	0.5	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	"	"	"	"	
Surr. Rec.:		115 %			"	"	
<b>MW-104 (1804027-03) Water Sampled: 08-Apr-08 12:00 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>32000</b>	<b>2500</b>	<b>ug/L</b>	<b>50</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	7100	25	"	"	"	"	
Toluene	1400	25	"	"	"	"	
Xylenes (total)	1800	50	"	"	"	"	
Ethylbenzene	680	25	"	"	"	"	
Methyl-t-butyl ether	ND	250	"	"	"	"	
Surr. Rec.:		115 %			"	"	

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

Project Number: 1262.2  
Project Name: Sullins  
Project Manager: Ray Kablanow

Work Order No.:  
I804027

**TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B**

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
<b>MW-B s (I804027-04) Water Sampled: 08-Apr-08 12:30 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>4400</b>	<b>500</b>	<b>ug/L</b>	<b>10</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	410	5.0	"	"	"	"	
Toluene	15	5.0	"	"	"	"	
Xylenes (total)	71	10	"	"	"	"	
Ethylbenzene	460	5.0	"	"	"	"	
Methyl-t-butyl ether	ND	50	"	"	"	"	
Surr. Rec.:		113 %					
<b>MW-305 (I804027-05) Water Sampled: 08-Apr-08 13:10 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>290</b>	<b>50</b>	<b>ug/L</b>	<b>1</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	42	0.5	"	"	"	"	
Toluene	14	0.5	"	"	"	"	
Xylenes (total)	28	1.0	"	"	"	"	
Ethylbenzene	8.1	0.5	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	"	"	"	"	
Surr. Rec.:		110 %					
<b>MW-108 (I804027-06) Water Sampled: 08-Apr-08 09:50 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>2200</b>	<b>250</b>	<b>ug/L</b>	<b>5</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	1100	2.5	"	"	"	"	
Toluene	24	2.5	"	"	"	"	
Xylenes (total)	140	5.0	"	"	"	"	
Ethylbenzene	26	2.5	"	"	"	"	
Methyl-t-butyl ether	ND	2.5	"	"	"	"	
Surr. Rec.:		102 %					

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359



Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

Project Number: 1262.2  
Project Name: Sullins  
Project Manager: Ray Kablanow

Work Order No.:  
1804027

**TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B**

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
<b>MW-206 (1804027-07) Water Sampled: 08-Apr-08 09:07 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>60</b>	<b>50</b>	<b>ug/L</b>	<b>1</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
<b>Gasoline</b>							
<b>Benzene</b>	<b>1.8</b>	<b>0.5</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Toluene</b>	<b>ND</b>	<b>0.5</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Xylenes (total)</b>	<b>ND</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Ethylbenzene</b>	<b>ND</b>	<b>0.5</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Methyl-t-butyl ether</b>	<b>ND</b>	<b>5.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Surr. Rec.:</b>		<b>99 %</b>			<b>"</b>	<b>"</b>	

**MW-205 (1804027-08) Water Sampled: 08-Apr-08 13:20 Received: 09-Apr-08 12:15**

<b>Total Petroleum Hydrocarbons @</b>	<b>31000</b>	<b>2500</b>	<b>ug/L</b>	<b>50</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
<b>Gasoline</b>							
<b>Benzene</b>	<b>20000</b>	<b>25</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Toluene</b>	<b>640</b>	<b>25</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Xylenes (total)</b>	<b>1400</b>	<b>50</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Ethylbenzene</b>	<b>510</b>	<b>25</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Methyl-t-butyl ether</b>	<b>ND</b>	<b>250</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Surr. Rec.:</b>		<b>99 %</b>			<b>"</b>	<b>"</b>	

**MW-208 (1804027-09) Water Sampled: 08-Apr-08 09:00 Received: 09-Apr-08 12:15**

<b>Total Petroleum Hydrocarbons @</b>	<b>19000</b>	<b>2000</b>	<b>ug/L</b>	<b>40</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
<b>Gasoline</b>							
<b>Benzene</b>	<b>3900</b>	<b>20</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Toluene</b>	<b>230</b>	<b>20</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Xylenes (total)</b>	<b>1200</b>	<b>40</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Ethylbenzene</b>	<b>550</b>	<b>20</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Methyl-t-butyl ether</b>	<b>ND</b>	<b>200</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Surr. Rec.:</b>		<b>97 %</b>			<b>"</b>	<b>"</b>	

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

Project Number: 1262.2  
Project Name: Sullins  
Project Manager: Ray Kablanow

Work Order No.:  
I804027

**TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B**

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
<b>W-1 s (I804027-10) Water Sampled: 08-Apr-08 13:35 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>30000</b>	<b>1200</b>	<b>ug/L</b>	<b>25</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	2600	12	"	"	"	"	
Toluene	340	12	"	"	"	"	
Xylenes (total)	1700	25	"	"	"	"	
Ethylbenzene	1800	12	"	"	"	"	
Methyl-t-butyl ether	ND	120	"	"	"	"	
Surr. Rec.:		109 %			"	"	
<b>MW-204 (I804027-11) Water Sampled: 08-Apr-08 11:30 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>9800</b>	<b>500</b>	<b>ug/L</b>	<b>10</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	1800	5.0	"	"	"	"	
Toluene	340	5.0	"	"	"	"	
Xylenes (total)	560	10	"	"	"	"	
Ethylbenzene	520	5.0	"	"	"	"	
Methyl-t-butyl ether	ND	50	"	"	"	"	
Surr. Rec.:		102 %			"	"	
<b>W-E s (I804027-12) Water Sampled: 07-Apr-08 10:45 Received: 09-Apr-08 12:15</b>							
<b>Total Petroleum Hydrocarbons @</b>	<b>ND</b>	<b>50</b>	<b>ug/L</b>	<b>1</b>	<b>10-Apr-08</b>	<b>EPA 8015M/8021B</b>	
Gasoline							
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	"	"	"	"	
Surr. Rec.:		97 %			"	"	

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

Project Number: 1262.2  
Project Name: Sullins  
Project Manager: Ray Kablanow

Work Order No.:  
1804027

**TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B**



Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
<b>MW-306 (1804027-13) Water Sampled: 07-Apr-08 14:47 Received: 09-Apr-08 12:15</b>							
Total Petroleum Hydrocarbons @	ND	50	ug/L	1	10-Apr-08	EPA 8015M/8021B	
Gasoline							
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	"	"	"	"	
Surr. Rec.:		90 %			"	"	
<b>MW-308 (1804027-14) Water Sampled: 07-Apr-08 14:20 Received: 09-Apr-08 12:15</b>							
Total Petroleum Hydrocarbons @	770	50	ug/L	1	10-Apr-08	EPA 8015M/8021B	
Gasoline							
Benzene	150	0.5	"	"	"	"	
Toluene	10	0.5	"	"	"	"	
Xylenes (total)	45	1.0	"	"	"	"	
Ethylbenzene	48	0.5	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	"	"	"	"	
Surr. Rec.:		108 %			"	"	
<b>MW-207 (1804027-15) Water Sampled: 07-Apr-08 15:15 Received: 09-Apr-08 12:15</b>							
Total Petroleum Hydrocarbons @	32000	2500	ug/L	50	10-Apr-08	EPA 8015M/8021B	
Gasoline							
Benzene	12000	25	"	"	"	"	
Toluene	350	25	"	"	"	"	
Xylenes (total)	790	50	"	"	"	"	
Ethylbenzene	580	25	"	"	"	"	
Methyl-t-butyl ether	ND	250	"	"	"	"	
Surr. Rec.:		86 %			"	"	


Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359



Geological Technics, Inc.  
 1101 7th Street  
 Modesto, CA 95354

 Project Number: 1262.2  
 Project Name: Sullins  
 Project Manager: Ray Kablanow

  
 Work Order No.:  
 1804027

**TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B**

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-307 (1804027-16) Water Sampled: 07-Apr-08 15:00 Received: 09-Apr-08 12:15							
Total Petroleum Hydrocarbons @	2500	250	ug/L	5	10-Apr-08	EPA 8015M/8021B	
Gasoline							
Benzene	720	2.5	"	"	"	"	
Toluene	110	2.5	"	"	"	"	
Xylenes (total)	160	5.0	"	"	"	"	
Ethylbenzene	69	2.5	"	"	"	"	
Methyl-t-butyl ether	ND	25	"	"	"	"	
		104 %			"	"	
Surr. Rec.:							


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Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Geological Technics, Inc.  
1101 7th Street  
Modesto, CA 95354

Project Number: 1262.2  
Project Name: Sullins  
Project Manager: Ray Kablanow

Work Order No.:  
1804027



## TPH-gas/BTEX/MTBE EPA Method 8015M / 8021B - Quality Control

## Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1800827 - EPA 5030B</b>										
<b>Blank (1800827-BLK1)</b>				Prepared & Analyzed: 04/10/08						
Surrogate: <i>a,a,a</i> -Trifluorotoluene	46.0		ug/L	50.00		92	80-120			
Total Petroleum Hydrocarbons @ Gasoline	ND	50	"							
Benzene	ND	0.5	"							
Toluene	ND	0.5	"							
Xylenes (total)	ND	1.0	"							
Ethylbenzene	ND	0.5	"							
Methyl-t-butyl ether	ND	5.0	"							
<b>LCS (1800827-BS1)</b>				Prepared & Analyzed: 04/10/08						
Total Petroleum Hydrocarbons @ Gasoline	1002		ug/L	1000		100	80-120			
<b>LCS Dup (1800827-BSD1)</b>				Prepared & Analyzed: 04/10/08						
Total Petroleum Hydrocarbons @ Gasoline	1006		ug/L	1000		101	80-120	0.4	20	
<b>Matrix Spike (1800827-MS1)</b>				Source: 1804027-07		Prepared & Analyzed: 04/10/08				
Toluene	22.10		ug/L	25.00	ND	88	70-130			
<b>Matrix Spike Dup (1800827-MSD1)</b>				Source: 1804027-07		Prepared & Analyzed: 04/10/08				
Toluene	20.70		ug/L	25.00	ND	83	70-130	7	20	

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Geological Technics, Inc.

1101 7th Street

Modesto, CA 95354

Project Number: 1262.2

Project Name: Sullins

Project Manager: Ray Kablanow



Work Order No.:

1804027

**Notes and Definitions**

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

---

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359



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**EXCELCHEM  
Environmental Labs**

1135 W Sunset Boulevard  
Suite A  
Rocklin, CA 95765  
Phone# 916-543-4445  
Fax# 916-543-4449



ELAP Certificate No. : 2119

03 March 2008

Geological Technics

Geological Technics

1101 7th Street


Modesto, CA 95354

RE: Sullins

Workorder number:0802084

Enclosed are the results of analyses for samples received by the laboratory on 02/14/08 08:37. All Quality Control results are within acceptable limits except where noted as a case narrative. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

  
John Somers, Lab Director

## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W-1	0802084-01	Water	02/13/08 11:10	02/14/08 08:37
W-1	0802084-02	Water	02/13/08 11:10	02/14/08 08:37

Excelchem Environmental Lab.

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Laboratory Representative

# Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

## W-1 0802084-01 (Water)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
<b>Metals by 200 series</b>								
Arsenic	35.0	10.0	ug/l	ARB0098	02/14/08	02/19/08	EPA 200.7	
Cadmium	ND	10.0	"	"	"	02/19/08	"	
Chromium	36.2	10.0	"	"	"	"	"	
Copper	29.4	20.0	"	"	"	"	"	
Lead	22.9	10.0	"	"	"	"	"	
Mercury	ND	0.000200	mg/L	ARB0109	"	02/19/08	Mercury by EPA 245.1	
Nickel	115	10.0	ug/l	ARB0098	"	02/19/08	EPA 200.7	
Silver	ND	20.0	"	"	"	"	"	
Zinc	46.0	20.0	"	"	"	"	"	
<b>Wet Chemistry</b>								
pH	6.57	0.100	pH Units	ARB0106	02/14/08	02/14/08	SM4500-H+	Field
<b>SM 4500-CN-F</b>								
Cyanide	ND	20	ug/L	0148242	02/27/08	02/28/08	SM 4500-CN-F	

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Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

## W-1 0802084-02 (Water)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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### Volatile Organic Compounds by GC/MS

Methyl tert-Butyl Ether	ND	0.5	ug/l	ARB0085	02/15/08	02/15/08	EPA 624	
Dichlorodifluoromethane	ND	0.5	"	"	"	"	"	
Chloromethane	ND	0.5	"	"	"	"	"	
Vinyl chloride	ND	0.5	"	"	"	"	"	
Bromomethane	ND	0.5	"	"	"	"	"	
Chloroethane	ND	0.5	"	"	"	"	"	
Trichlorofluoromethane	ND	0.5	"	"	"	"	"	
Acrolein	ND	15.0	"	"	"	"	"	
Trichlorotrifluoroethane	ND	1.0	"	"	"	"	"	
1,1-Dichloroethene	ND	0.5	"	"	"	"	"	
Acrylonitrile	ND	1.5	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.5	"	"	"	"	"	
1,1-Dichloroethane	ND	0.5	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.5	"	"	"	"	"	
Bromochloromethane	ND	0.5	"	"	"	"	"	
Chloroform	ND	0.5	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.5	"	"	"	"	"	
Carbon tetrachloride	ND	0.5	"	"	"	"	"	
<b>Benzene</b>	<b>22100</b>	0.5	"	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	"	
Trichloroethene	ND	0.5	"	"	"	"	"	
1,2-Dichloropropane	ND	0.5	"	"	"	"	"	
Dibromomethane	ND	0.5	"	"	"	"	"	
Bromodichloromethane	ND	0.5	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.5	"	"	"	"	"	
<b>Toluene</b>	<b>20800</b>	0.5	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.5	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.5	"	"	"	"	"	
Tetrachloroethene	ND	0.5	"	"	"	"	"	
Dibromochloromethane	ND	0.5	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	"	
Chlorobenzene	ND	0.5	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.5	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3000</b>	0.5	"	"	"	"	"	
<b>Xylenes, total</b>	<b>16000</b>	1.0	"	"	"	"	"	
Styrene	ND	0.5	"	"	"	"	"	
Bromoform	ND	0.5	"	"	"	"	"	

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Laboratory Representative

## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### W-1 0802084-02 (Water)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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#### Volatile Organic Compounds by GC/MS

1,3-Dichlorobenzene	ND	0.5	ug/l	ARB0085	02/15/08	02/15/08	EPA 624	
1,4-Dichlorobenzene	ND	0.5	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.5	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.5	"	"	"	"	"	
Surrogate: Dibromofluoromethane		105 %	% Recovery Limits		70-130		"	
Surrogate: Toluene-d8		109 %	% Recovery Limits		70-130		"	
Surrogate: 4-Bromofluorobenzene		98.0 %	% Recovery Limits		70-130		"	

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Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

## Metals by 200 series - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch ARB0098 - EPA 200.7

#### Blank (ARB0098-BLK1)

Prepared: 02/14/08 Analyzed: 02/18/08

Arsenic	ND	10.0	ug/l
Cadmium	ND	10.0	"
Chromium	ND	10.0	"
Copper	ND	20.0	"
Lead	ND	10.0	"
Nickel	ND	10.0	"
Silver	ND	20.0	"
Zinc	ND	20.0	"

#### LCS (ARB0098-BS1)

Prepared: 02/14/08 Analyzed: 02/18/08

Arsenic	1120	10.0	ug/l	1000	112	75-125
Cadmium	1090	10.0	"	1000	109	75-125
Chromium	1080	10.0	"	1000	108	75-125
Copper	1000	20.0	"	1000	100	75-125
Lead	1050	10.0	"	1000	105	75-125
Nickel	1080	10.0	"	1000	108	75-125
Silver	987	20.0	"	1000	98.7	75-125
Zinc	1150	20.0	"	1000	115	75-125

#### LCS Dup (ARB0098-BSD1)

Prepared: 02/14/08 Analyzed: 02/18/08

Arsenic	1120	10.0	ug/l	1000	112	75-125	0.716	25
Cadmium	1100	10.0	"	1000	110	75-125	0.815	25
Chromium	1080	10.0	"	1000	108	75-125	0.190	25
Copper	1000	20.0	"	1000	100	75-125	0.0283	25
Lead	1050	10.0	"	1000	105	75-125	0.213	25
Nickel	1080	10.0	"	1000	108	75-125	0.438	25
Silver	981	20.0	"	1000	98.1	75-125	0.547	25
Zinc	1150	20.0	"	1000	115	75-125	0.100	25

1

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Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

## Metals by 200 series - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch ARB0098 - EPA 200.7

Matrix Spike (ARB0098-MS1)	Source: 0802075-01			Prepared: 02/14/08		Analyzed: 02/18/08	
Arsenic	1090	10.0	ug/l	1000	23.2	107	75-125
Cadmium	983	10.0	"	1000	120	86.3	75-125
Chromium	1390	10.0	"	1000	494	89.6	75-125
Copper	6270	20.0	"	1000	5230	105	75-125
Lead	1220	10.0	"	1000	394	82.8	75-125
Nickel	1090	10.0	"	1000	264	83.0	75-125
Silver	4300	20.0	"	1000	3160	114	75-125
Zinc	22300	20.0	"	1000	21200	112	75-125

Matrix Spike Dup (ARB0098-MSD1)	Source: 0802075-01			Prepared: 02/14/08		Analyzed: 02/18/08			
Arsenic	1060	10.0	ug/l	1000	23.2	104	75-125	2.83	25
Cadmium	986	10.0	"	1000	120	86.6	75-125	0.259	25
Chromium	1370	10.0	"	1000	494	87.8	75-125	1.34	25
Copper	6320	20.0	"	1000	5230	109	75-125	0.712	25
Lead	1260	10.0	"	1000	394	86.4	75-125	2.85	25
Nickel	1120	10.0	"	1000	264	85.4	75-125	2.20	25
Silver	4170	20.0	"	1000	3160	101	75-125	2.92	25
Zinc	22600	20.0	"	1000	21200	138	75-125	1.17	25

### Batch ARB0109 - Mercury by EPA 245.1

Blank (ARB0109-BLK1)	Prepared: 02/14/08			Analyzed: 02/19/08	
Mercury	ND	0.000200	mg/L		
LCS (ARB0109-BS1)	Prepared: 02/14/08			Analyzed: 02/19/08	
Mercury	0.00738	0.000200	mg/L	0.00667	111 85-115

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## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### Metals by 200 series - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch ARB0109 - Mercury by EPA 245.1

<b>LCS Dup (ARB0109-BSD1)</b>				Prepared: 02/14/08 Analyzed: 02/19/08						
Mercury	0.00729	0.000200	mg/L	0.00667		109	85-115	1.27	20	
<b>Matrix Spike (ARB0109-MS1)</b>				Source: 0802084-01 Prepared: 02/14/08 Analyzed: 02/19/08						
Mercury	0.00748	0.000200	mg/L	0.00667	ND	112	75-125			
<b>Matrix Spike Dup (ARB0109-MSD1)</b>				Source: 0802084-01 Prepared: 02/14/08 Analyzed: 02/19/08						
Mercury	0.00751	0.000200	mg/L	0.00667	ND	113	75-125	0.427	20	

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Laboratory Representative

## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch ARB0085 - EPA 624

##### Blank (ARB0085-BLK1)

Prepared & Analyzed: 02/14/08

Surrogate: Dibromofluoromethane	12.7		ug/l	12.5		102	70-130			
Surrogate: Toluene-d8	13.5		"	12.5		108	70-130			
Surrogate: 4-Bromofluorobenzene	12.8		"	12.5		103	70-130			
Methyl tert-Butyl Ether	ND	0.5	"							
Dichlorodifluoromethane	ND	0.5	"							
Chloromethane	ND	0.5	"							
Vinyl chloride	ND	0.5	"							
Bromomethane	ND	0.5	"							
Chloroethane	ND	0.5	"							
Trichlorofluoromethane	ND	0.5	"							
Acrolein	ND	15.0	"							
Trichlorotrifluoroethane	ND	1.0	"							
1,1-Dichloroethene	ND	0.5	"							
Acrylonitrile	ND	1.5	"							
Methylene chloride	ND	5.0	"							
trans-1,2-Dichloroethene	ND	0.5	"							
1,1-Dichloroethane	ND	0.5	"							
cis-1,2-Dichloroethene	ND	0.5	"							
Bromochloromethane	ND	0.5	"							
Chloroform	ND	0.5	"							
1,1,1-Trichloroethane	ND	0.5	"							
Carbon tetrachloride	ND	0.5	"							
Benzene	ND	0.5	"							
1,2-Dichloroethane	ND	0.5	"							
Trichloroethene	ND	0.5	"							
1,2-Dichloropropane	ND	0.5	"							
Dibromomethane	ND	0.5	"							
Bromodichloromethane	ND	0.5	"							
cis-1,3-Dichloropropene	ND	0.5	"							
Toluene	ND	0.5	"							
trans-1,3-Dichloropropene	ND	0.5	"							
1,1,2-Trichloroethane	ND	0.5	"							
Tetrachloroethene	ND	0.5	"							
Dibromochloromethane	ND	0.5	"							
1,2-Dibromoethane (EDB)	ND	0.5	"							
Chlorobenzene	ND	0.5	"							
1,1,2,2-Tetrachloroethane	ND	0.5	"							
Ethylbenzene	ND	0.5	"							
Xylenes, total	ND	1.0	"							

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Laboratory Representative



# Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch ARB0085 - EPA 624

#### Blank (ARB0085-BLK1)

Prepared & Analyzed: 02/14/08

Styrene	ND	0.5	ug/l
Bromoform	ND	0.5	"
1,3-Dichlorobenzene	ND	0.5	"
1,4-Dichlorobenzene	ND	0.5	"
1,2-Dichlorobenzene	ND	0.5	"
1,2,4-Trichlorobenzene	ND	0.5	"

#### LCS (ARB0085-BS1)

Prepared & Analyzed: 02/14/08

Surrogate: Dibromofluoromethane	12.6		ug/l	12.5		101	70-130
Surrogate: Toluene-d8	13.6		"	12.5		109	70-130
Surrogate: 4-Bromofluorobenzene	12.7		"	12.5		102	70-130
1,1-Dichloroethene	9.6	0.5	"	10.0		96.5	80-120
Benzene	9.0	0.5	"	10.0		89.6	80-120
Trichloroethene	9.7	0.5	"	10.0		96.9	80-120
Toluene	9.5	0.5	"	10.0		95.2	80-120
Chlorobenzene	9.8	0.5	"	10.0		98.1	80-120

#### Matrix Spike (ARB0085-MS1)

Source: 0802058-01

Prepared: 02/14/08 Analyzed: 02/15/08

Surrogate: Dibromofluoromethane	12.4		ug/l	12.5		99.5	70-130
Surrogate: Toluene-d8	13.3		"	12.5		107	70-130
Surrogate: 4-Bromofluorobenzene	12.6		"	12.5		101	70-130
1,1-Dichloroethene	10.0	0.5	"	10.0	ND	100	80-120
Benzene	8.9	0.5	"	10.0	ND	88.7	80-120
Trichloroethene	10.2	0.5	"	10.0	ND	102	80-120
Toluene	9.8	0.5	"	10.0	ND	98.2	80-120
Chlorobenzene	9.6	0.5	"	10.0	ND	95.9	80-120

#### Matrix Spike Dup (ARB0085-MSD1)

Source: 0802058-01

Prepared: 02/14/08 Analyzed: 02/15/08

Surrogate: Dibromofluoromethane	12.7		ug/l	12.5		102	70-130
Surrogate: Toluene-d8	13.3		"	12.5		107	70-130
Surrogate: 4-Bromofluorobenzene	12.3		"	12.5		98.1	70-130
1,1-Dichloroethene	10.0	0.5	"	10.0	ND	99.9	80-120 0.499 15
Benzene	8.8	0.5	"	10.0	ND	87.6	80-120 1.25 15
Trichloroethene	9.5	0.5	"	10.0	ND	95.3	80-120 6.99 15
Toluene	9.5	0.5	"	10.0	ND	94.6	80-120 3.73 15
Chlorobenzene	9.7	0.5	"	10.0	ND	96.6	80-120 0.727 15

Excelchem Environmental Lab

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Laboratory Representative

## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

#### Batch ARB0106 - SM4500-H+

Duplicate (ARB0106-DUP1)

Source: 0802084-01

Prepared & Analyzed: 02/14/08

pH	6.64	0.100	pH Units	6.57	1.06	200
----	------	-------	----------	------	------	-----

Excelchem Environmental Lab.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Laboratory Representative

## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### SM 4500-CN-F - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 0148242 - SM 4500-CN-F

##### BLK1 (0148242-BLK1)

Prepared: 02/27/08 Analyzed: 02/28/08

Cyanide ND 0.020 ug/L

##### BS1 (0148242-BS1)

Prepared: 02/27/08 Analyzed: 02/28/08

Cyanide 0.20 0.020 ug/L 0.2 99 80-120 20

##### BSD1 (0148242-BSD1)

Prepared: 02/27/08 Analyzed: 02/28/08

Cyanide 0.19 0.020 ug/L 0.2 97 80-120 2.6 20

##### MS1 (0148242-MS1)

Source: 951852

Prepared: 02/27/08 Analyzed: 02/28/08

Cyanide 0.17 0.020 ug/L 0.2 ND 87 80-120 20

##### MSD1 (0148242-MSD1)

Source: 951852

Prepared: 02/27/08 Analyzed: 02/28/08

Cyanide 0.18 0.020 ug/L 0.2 ND 89 80-120 2.9 20

Excelchem Environmental Lab

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Laboratory Representative



## Excelchem Environmental Labs

Geological Technics  
1101 7th Street  
Modesto, CA 95354

Project: Sullins  
Project Number: 1262.2  
Project Manager: Geological Technics

Date Reported:  
03/03/08 11:15

### Notes and Definitions

Field This analyte was analyzed outside of the EPA recommended hold time of 15 minutes and should be analyzed in the field.

ND - Analyte not detected at reporting limit.

NR - Not reported

---

Excelchem Environmental Lab

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



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Laboratory Representative

1101 7th Street  
Modesto, CA  
(209) 522-4119 Fax 522-4227

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Page 1 of 2

## Chain of Custody

[illegible]

Rev. 07/2007



# Geological Technics Inc.

1101 7th Street  
Modesto, CA

(209) 522-4119 Fax 522-4227

E-mail: gti@geologicaltechnics.com

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Page 2 of 2



## Chain of Custody

Project #:			Client/Project Name:			Analysis Requested										Laboratory:	
1262.2			SULLINS													Temp. @ Shipping: C°	
Site Address:																Temp. @ Lab Receipt: C°	
187 NORTH L STREET																Purchase Order #	
Remarks:																EDF Report: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Sampled By: (print and sign name)																Turnaround Time: (S) = Standard	
Matthew Ude																1 day 2 day 5 day	
Date	Time	Sample I.D.	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type											Remarks	
2/13/08	11:10	W-1	3	W	HCO	PH	EPA 150.1	TPH	1664A	T.T.O	EPA 624+625					* EPA 1664 Item - SILICA GEL CLEANUP (RL 10 mg/L)	
																Cancel 1664 & 625 per Elizabeth - 2/14/08	
																TTO RL 0.005 mg/L	
Relinquished by: (signature)			Date:	Time:	Received by: (signature)										Date:	Time:	
Matthew Ude			2/13/08	1455	D. Olafson										2/13/08	1855	
Relinquished by: (signature)			Date:	Time:	Received by: (signature)										Date:	Time:	
D. Olafson			2/14/08	08:37	[Signature]										2/14/08	837	
Relinquished by: (signature)			Date:	Time:	Received by: (signature)										Date:	Time:	

Please Return Ice Chests to Geological Technics Inc.

Rev. 07/2007



## **Appendix C**

### **Groundwater Monitoring Field Notes**

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: W-1s

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:45	0.0	24.3	543	6.64	-93.2		Clear, petroleum odor, no sediments
10:59	14.5	24.6	533	6.71	-104.7		Clear, petroleum odor, no sediments
12:20	29.0	24.8	514	6.76	-95.5		Clear, petroleum odor, no sediments
12:25	32.0	-	-	-	-		Well went dry
13:35							Collected samples

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

Pumping Rate: 0.83 gal/min

Well Constructed TD (ft):	<u>45.00</u>
* Well TD (ft):	<u>44.05</u>
Silt Thickness (ft):	<u>0.95</u>
Initial DTW (ft):	<u>34.22</u>
** Final DTW (ft):	<u>38.14</u>
Casing diameter (in):	<u>6"</u>
Water column height (ft):	<u>9.83</u>
One casing volume (gal):	<u>14.55</u>

Sample Containers used: 4 # VOAs X preserved \_\_\_ non-preserved  
 \_\_\_ # amber liters \_\_\_ preserved \_\_\_ non-preserved  
 \_\_\_ # polys \_\_\_ size \_\_\_ preserved \_\_\_ non-preserved  
 \_\_\_ # polys \_\_\_ size \_\_\_ preserved \_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☒ Yes ☐ No

No. of Drums: 2

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

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

Well I.D.: W-Bs

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
8:29	0.0	22.4	430	7.08	-33.6		Clear, petroleum odor, no sediments
9:20	15.0	23.6	423	6.61	-52.5		Clear, petroleum odor, no sediments
10:15	25.0	-	-	-	-		Well went dry
12:30						0.28	Collected samples

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

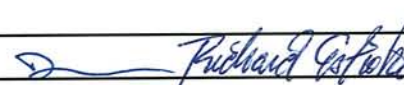
Pumping Rate: 0.49 gal/min

Well Constructed TD (ft): 45.00  
 \* Well TD (ft): 44.12  
 Silt Thickness (ft): 0.88  
 Initial DTW (ft): 34.16  
 \*\* Final DTW (ft): 38.12  
 Casing diameter (in): 4"  
 Water column height (ft): 9.96  
 One casing volume (gal): 1.59

Sample Containers used: 4 # VOAs X preserved \_\_\_ non-preserved  
 \_\_\_ # amber liters \_\_\_ preserved \_\_\_ non-preserved  
 \_\_\_ # polys \_\_\_ size \_\_\_ preserved \_\_\_ non-preserved  
 \_\_\_ # polys \_\_\_ size \_\_\_ preserved \_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko



Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_



# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: W-Es

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:13	0.0	24.1	510	6.82	123.5		Clear, no odor, few sediments
10:19	2.0	25.2	506	6.86	119.7		Clear, no odor, no sediments
10:27	4.0	25.1	513	6.94	123.1		Clear, no odor, no sediments
10:35	6.0	25.1	503	7.07	121.4		Clear, no odor, no sediments
10:45						6.85	Collected samples

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

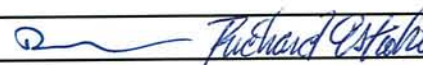
Pumping Rate: 0.27 gal/min

Well Constructed TD (ft):	<u>45.00</u>
* Well TD (ft):	<u>43.97</u>
Silt Thickness (ft):	<u>1.03</u>
Initial DTW (ft):	<u>34.44</u>
** Final DTW (ft):	<u>39.99</u>
Casing diameter (in):	<u>2"</u>
Water column height (ft):	<u>9.53</u>
One casing volume (gal):	<u>1.62</u>

Sample Containers used: 4 # VOAs X preserved \_\_\_ non-preserved  
 \_\_\_ # amber liters \_\_\_ preserved \_\_\_ non-preserved  
 \_\_\_ # polys \_\_\_ size \_\_\_ preserved \_\_\_ non-preserved  
 \_\_\_ # polys \_\_\_ size \_\_\_ preserved \_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko



Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-104

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:40	0.00	-	-	-	-		Started purging
11:55	0.35	-	-	-	-		Finished purging
12:00							Collected samples

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

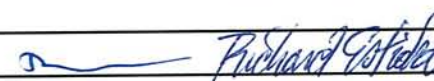
Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	49.99
Silt Thickness (ft):	-
Initial DTW (ft):	37.74
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	12.25
One casing volume (gal):	0.12

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko



Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop 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

## Groundwater Monitoring Field Log

Well I.D.: MW-105

Date: 4/8/2008

Samples sent to: Argon

Livermore, CA

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):

\* Well TD (ft):

Silt Thickness (ft):

Initial DTW (ft):

\*\* Final DTW (ft):

Casing diameter (in): CMT

Water column height (ft):

One casing volume (gal):

Sample Containers used: \_\_\_\_\_ # VOAs   X   preserved \_\_\_\_\_ non-preserved

# amber liters      \_\_\_\_\_ preserved      \_\_\_\_\_ non-preserved

# polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

# polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes:

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured      \*\* = @ sampling

Develop 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



# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-106

Date: 4/7, 8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:51	0.00	-	-	-	-		Started purging
	0.45	-	-	-	-		Finished purging
8:40							Well not producing water second time on 4/8/08

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	50.98
Silt Thickness (ft):	-
Initial DTW (ft):	35.61
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	15.37
One casing volume (gal):	0.00

Sample Containers used: \_\_\_\_\_ # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

*[Signature]*

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_

Project Name: Sullins- Arrow Rentals (L Street)Well I.D.: MW-107Project No.: 1262.2Date: 4/8/2008Project Location: 187 North L StreetLivermore, CASamples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
9:30	0.00	-	-	-	-		Started purging
10:05	0.15	-	-	-	-		Finished purging
10:05							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	39.52
Silt Thickness (ft):	-
Initial DTW (ft):	35.05
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	4.47
One casing volume (gal):	0.04

Sample Containers used: 2 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. EstiokoSample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-108

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
9:40	0.00	-	-	-	-		Started purging
9:47	0.15	-	-	-	-		Finished purging
9:50							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

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

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_



# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-204

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:10	0.0	-	-	-	-		Started purging
11:26	1.0	-	-	-	-		Finished purging
11:30							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	66.00
Silt Thickness (ft):	-
Initial DTW (ft):	34.42
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	31.58
One casing volume (gal):	0.32

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop 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

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-205

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:10	0.00	-	-	-	-		Started purging
13:15	0.15	-	-	-	-		Finished purging
13:20							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	36.28
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	30.72
One casing volume (gal):	0.30

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop 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

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-206

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
9:00	0.0	-	-	-	-		Started purging
9:05	1.0	-	-	-	-		Finished purging
9:07							Collected samples

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

Pumping Rate:            gal/min

Well Constructed TD (ft):	<u>-</u>
* Well TD (ft):	<u>66.60</u>
Silt Thickness (ft):	<u>-</u>
Initial DTW (ft):	<u>34.41</u>
** Final DTW (ft):	<u>-</u>
Casing diameter (in):	<u>CMT</u>
Water column height (ft):	<u>32.19</u>
One casing volume (gal):	<u>0.32</u>

Sample Containers used: 4 # VOAs X preserved        non-preserved  
                                   # amber liters        preserved        non-preserved  
                                   # polys        size        preserved        non-preserved  
                                   # polys        size        preserved        non-preserved

Notes: Grab samples taken due to shortness of tubing, removed & needs to be replaced

Sampled By: D. Villanueva / R. Estioko

*[Signature]*

Sample Method: Waterra ☐ Bailer ☒

\* = measured \*\* = @ sampling

Develop 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



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

Well I.D.: MW-207Date: 4/7/2008Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC ( $\mu$ S/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:52	0.0	-	-	-	-		Started purging
15:08	1.0	-	-	-	-		Finished purging
15:15							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	36.07
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	30.93
One casing volume (gal):	0.30

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. EstiokoSample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_

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

Well I.D.: MW-208

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
8:45	0.0	-	-	-	-		Started purging
8:55	1.0	-	-	-	-		Finished purging
9:00							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	36.98
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	30.02
One casing volume (gal):	0.30

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko



Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-304

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC ( $\mu$ S/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:00	0.0	-	-	-	-		Started purging
11:06	1.0	-	-	-	-		Finished purging
11:10							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	39.42
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	27.58
One casing volume (gal):	0.27

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_



# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-305

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:00	0.0	-	-	-	-		Started purging
13:07	1.0	-	-	-	-		Finished purging
13:10							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	34.56
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	32.44
One casing volume (gal):	0.32

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

[Signature]

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop Water Drummed: ☐ Yes ☐ No

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

No. of Drums: \_\_\_\_\_

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-306

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:37	0.00	-	-	-	-		Started purging
14:43	0.75	-	-	-	-		Finished purging
14:47							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.70
Silt Thickness (ft):	-
Initial DTW (ft):	38.11
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	29.59
One casing volume (gal):	0.30

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop 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

# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-307

Date: 4/7/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:42	0.0	-	-	-	-		Started purging
14:57	1.0	-	-	-	-		Finished purging
15:00							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	34.05
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	32.95
One casing volume (gal):	0.33

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop 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



# Geological Technics, Inc.

## Groundwater Monitoring Field Log

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

Well I.D.: MW-308

Date: 4/8/2008

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
14:10	0.0	-	-	-	-		Started purging
14:17	1.0	-	-	-	-		Finished purging
14:20							Collected samples

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	35.05
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	31.95
One casing volume (gal):	0.32

Sample Containers used: 4 # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_

Sampled By: D. Villanueva / R. Estioko

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Develop 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

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

Well I.D.: MW-404

Date: 4/8/2008

Samples sent to: Argon


Time	Cumulative Volume Purged (gal)	Temp C°	EC (μS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:13							Well Dry

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

Pumping Rate: \_\_\_\_\_ gal/min

Well Constructed TD (ft):	-
* Well TD (ft):	67.00
Silt Thickness (ft):	-
Initial DTW (ft):	34.66
** Final DTW (ft):	-
Casing diameter (in):	CMT
Water column height (ft):	32.34
One casing volume (gal):	0.32

Sample Containers used: \_\_\_\_\_ # VOAs X preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # amber liters \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved  
 \_\_\_\_\_ # polys \_\_\_\_\_ size \_\_\_\_\_ preserved \_\_\_\_\_ non-preserved

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 Sampled By: D. Villanueva / R. Estioko 

Sample Method: Waterra ☒ Bailer ☐

\* = measured \*\* = @ sampling

Gallons per foot of casing. 2" dia. = 0.17, 3" dia. = 0.38 4" dia. = 0.65, 5" dia. = 1.02, 6" dia. = 1.48

Develop Water Drummed: ☐ Yes ☐ No

No. of Drums: \_\_\_\_\_