October 18, 2010

Jerry Wickham
Alameda County Environmental Health Svcs
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Transmittal Letter
Site Location: Springtown Gas
909 Blue Bell Drive, Livermore, CA 94551

Dear Mr. Wickham:

On behalf of Aminifilibadi Masood & Amini Sharbano, Geological Technics Inc. (GTI) prepared the 2nd Semi-Annual Groundwater Monitoring & Interim Remedial Effectiveness Report (2nd & 3rd Quarters), dated October 18, 2010 that was sent to your office via electronic delivery per Alameda County's guidelines on October 29, 2010.

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,

Aminifilibadi Masood/Amini Sharbano
Property Owner
909 Blue Bell Drive
Livermore, CA 94551

Geological Technics Inc.

REPORT

Groundwater Monitoring (2nd & 3rd Quarters 2010)
&
Interim Remedial Effectiveness

Springtown Gas
909 Bluebell Drive
Livermore, California

Project No. 1409.2
October 18, 2010

Prepared for:
Masood Amini Filibadi and Shahrbano Amini
909 Bluebell Drive
Livermore, California 94551

Prepared by:
Geological Technics Inc.
1172 Kansas Avenue
Modesto, California 95351
(209) 522-4119
www.gtienv.com

Geological Technics Inc.

1172 Kansas Avenue
Modesto, California 95351
(209) 522-4119/Fax (209) 522-4227
www.gtienv.com

October 18, 2010

Project No.: 1409.2
Project Name: Springtown Gas (Bluebell)

Masood Amini Filibadi and Shahrbano Amini
Springtown Gas
909 Bluebell Drive
Livermore, California 94551

RE: Report –Groundwater Monitoring (2nd & 3rd Quarter 2010) & Interim Remedial Effectiveness
Springtown Gas, 909 Bluebell Drive, Livermore, California

Dear Masood Amini Filibadi and Shahrbano Amini:

Geological Technics Inc. (GTI) has prepared the following Report for the 2nd and 3rd Quarter 2010 groundwater monitoring events performed on June 25, and August 24, 2010 at Springtown Gas, 909 Bluebell Drive, Livermore, California. This report also includes an evaluation of the effectiveness of the interim remedial action and recommendations, as directed by Alameda County Environmental Health (ACEH) in correspondence dated August 25, 2010.

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

Respectfully submitted,

Tamorah Bryant, P.E.

cc: Jerry Wickham – ACEHS
USTCFP

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FIGURES

APPENDICES

Geological Technics Inc.
1172 Kansas Avenue
Modesto, California 95351
(209) 522-4119/Fax (209) 522-4227

REPORT

Groundwater Monitoring (2nd & 3rd Quarter 2010) & Interim Remedial Effectiveness

Springtown Gas
909 Bluebell Drive
Livermore, California

Project No. 1409.2
October 18, 2010

1. EXECUTIVE SUMMARY

This report summarizes the results of the 2nd and 3rd Quarter 2010 groundwater monitoring and sampling events that took place on June 25 and August 24, 2010 at Springtown Gas, 909 Bluebell Drive, Livermore, Alameda County, California (Site), and includes an evaluation of the interim remedial effectiveness as directed by Alameda County Environmental Health (ACEH) in correspondence dated August 25, 2010.

The groundwater trend was observed to be variable for both monitoring events. Laboratory analytical data from the 2nd quarter 2010 event indicated that that the four new wells were non-detect for all constituents analyzed. Third quarter 2010 analytical data indicated the presence of MtBE and TBA only, in concentrations at or near historic lows for the site.

An evaluation of Interim Remedial Activities included a review of dissolved oxygen concentrations measured before and after conducting the hydrogen peroxide pilot test, and a comparison of post pilot test contaminant levels to Environmental Screening Levels. It is GTI's opinion that the interim remedial activities consisting of hydrogen peroxide injection pilot test was successful and that ISCO is an effective technology to address the MTBE and TBA contamination in the subsurface.

Based on 3rd quarter groundwater monitoring and sampling data, it is recommended that additional pilot study work include hydrogen peroxide injection into MW-2 and MW-102, which have been hypothesized to be located up-gradient of a small pocket of contamination that may be sourcing the groundwater plume along with the initial pilot test injection wells STMW-1/101, STMW-3/103, and P-1.

GTI will commence the additional Pilot Test work upon review and approval by ACEH.

2. PHYSICAL SETTING

The Site is situated in a mixed commercial-residential land-use area of Livermore, California, located at the southeast corner of the intersection of Springtown Boulevard and Blue Bell Drive, approximately 300 feet north of westbound Interstate 580 (Figure 1). The Site occupies approximately 0.74 acres, and is currently an operating service station with mini-mart retailing Chevron-branded gasoline and diesel fuel products. The site contains one UST cluster in the east portion of the Site consisting of one 12,000 gallon capacity unleaded gasoline UST, and a 12,000 gallon capacity segmented UST storing 6,000 gallons of diesel and 6,000 gallons of premium unleaded. A single story mini-mart is located on the southern portion of the Site, and six canopied fuel dispensers are located in the north portion of the Site. No automotive repair facilities exist on the Site. The Site is adjoined by Springtown Boulevard on the west, motel properties on the south and east, and Bluebell Drive on the north. Retail land-use is located on the north side of Bluebell Drive, with residential land-use beyond to the north and northeast.

The Site is located at an elevation of approximately 520 feet above mean sea level in the northeast portion of the Livermore Valley (USGS 1981). The Livermore Valley is a structural basin bounded by faults on the east and west that create the Altamont Hills uplift on the east and the Pleasanton Ridge uplift on the west (CDM&G, 1991). The shallow Pleistocene to recent sediments underlying the basin consist of alluvial deposits that have been informally divided into upper and lower units. The sediment, ranging from coarse-grained gravel to fine-grained mud, was transported northward from the Northern Diablo Range on the southern margin of the basin and deposited in an alluvial fan, braided stream, and lacustrine environments. Because the sediment prograded northward, the coarse-grained sediment makes up nearly 80% of the sediment in the southern part of the basin, but northward and westward interfingers with clay deposits that may be as much as 30 feet thick (DWR, 2004).

Drainages from the south, north, and east converge in the western part of the basin and flow out of the basin toward the Sunol Valley and Alameda Creek west of Pleasanton Ridge. The nearest surface drainages are Las Positas Creek located approximately 1 mile west of the Site, and Cavetano Creek 2 miles west of the Site (USGS 1981).

The alluvial fan, braided stream and lacustrine deposits are the principal aquifers for most domestic and irrigation purposes in the Livermore Valley, although the underlying Livermore Formation, which may be as much as 4,000 feet thick, yields significant quantities of groundwater on the eastern side of the basin (DWR 2004).

3. GROUNDWATER MONITORING

3.1. 2nd Quarter

The average groundwater elevation for the 2nd Quarter 2010 monitoring event was 511.46 feet AMSL on June 25, 2010, which corresponds to approximately 8.17 feet below ground surface (bgs). This elevation represents a decrease of 1.05 feet since the 1st Quarter 2010 monitoring event (February 10, 2010). The groundwater gradient for the 2nd Quarter 2010 groundwater monitoring event was variable, which is consistent with the previous groundwater monitoring events.

The gradient direction for the 2nd Quarter 2010 groundwater monitoring event is shown on Figure 2 (Groundwater Gradient Map 2nd Quarter). The calculated groundwater gradient and flow direction is shown on Figure 4 (Groundwater Gradient Rose Diagram). The groundwater elevation data are summarized in Table 1 included in Appendix A. Table 4 provides a summary of monitoring well completion data.

3.2. 3rd Quarter

The average groundwater elevation for the 3rd Quarter 2010 monitoring event was 511.25 feet AMSL on August 24, 2010, which corresponds to approximately 8.38 feet below ground surface (bgs). This elevation represents a decrease of 0.21 feet since the 2nd Quarter 2010 monitoring event (June 25, 2010), and an elevation increase of 0.46 feet since the 3rd Quarter 2009 monitoring event (September 8, 2009). The groundwater gradient for the 3rd Quarter 2010 groundwater monitoring event was variable, which is consistent with the previous groundwater monitoring events.

The gradient direction for the 3rd Quarter 2010 groundwater monitoring event is shown on Figure 3 (Groundwater Gradient Map 3rd Quarter). The calculated groundwater gradient and flow direction is shown on Figure 4 (Groundwater Gradient Rose Diagram). The groundwater elevation data are summarized in Table 1 included in Appendix A. Table 4 provides a summary of monitoring well completion data.

3.3. Groundwater Sampling Procedure

The 2nd Quarter 2010 groundwater monitoring event was conducted on June 25, 2010. GTI monitored groundwater elevations and collected groundwater samples for analyses from the newly installed wells (MW-101, MW-102, MW-103, and MW-4).

The 3rd Quarter 2010 groundwater monitoring event was conducted on August 24, 2010. GTI monitored groundwater elevations and collected groundwater samples for analyses from eight groundwater monitoring wells on the Site.

Depth to water in each monitoring well was measured and recorded before groundwater samples were collected from the wells. The wells being sampled were purged of at least three well volumes of stagnant water using dedicated Waterra® foot valves and tubing. 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. These water quality parameters were measured at intervals of each well volume purged. All purge water was placed in a 55-gallon DOT drums and secured on-site.

Before a sample was collected from each well, the water level was allowed to recharge to at least 80% of its initial level. Dedicated tubing attached to Waterra® foot valves were used to collect groundwater samples from the monitoring wells. The samples were placed into 40-ml VOA vials preserved with hydrochloric acid. Care was taken to minimize sample aeration during sample collection and avoid generating headspace. All samples were checked for the presence of headspace, labeled, recorded on a chain-of-custody, and placed in an ice chest cooled to 4°C for transport to the analytical laboratory. All non-disposable sampling equipment was decontaminated in an Alconox solution and double-rinsed with de-ionized water before initial use and between uses at each monitoring well.

Groundwater monitoring field logs are included in Appendix C. A summary of Water Quality Parameter Data is included in Table 3 of Appendix A.

3.4. Laboratory Analyses

The groundwater samples collected on June 25, and August 24, 2010, were delivered to Argon Laboratories of Ceres, California (ELAP #2359) for the following analyses:

The laboratory utilized USEPA Method 8260B to analyze the groundwater samples for the following constituents:

- Total petroleum hydrocarbons as gasoline (TPH-G),
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX),
- Methyl tertiary butyl ether (MtBE), and,
- Di-isopropyl alcohol (DIPE), ethyl-tertiary butyl ether (EtBE), tert-amyl-methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), tert butyl alcohol (TBA), methanol and ethanol

The results and detection limits for the above analyses are listed in Table 2 included in Appendix A. Certified analytical reports are included in Appendix B.

As required under AB2886, the groundwater elevation and laboratory analytical data were submitted electronically to GeoTracker on October 25, 2010 for the groundwater elevation data for both 2nd and 3rd quarters, (confirmation numbers 8845826148 & 4834060609), and the laboratory analytical data for both 2nd and 3rd quarters (confirmation numbers 5506677091& 8845826148).

4. GROUNDWATER MONITORING FINDINGS

The results of the 2nd Quarter 2010 groundwater monitoring event indicate the following:

- The average groundwater elevation at the site was 511.46 feet AMSL and the groundwater flow was variable for this event.
- The results of analyses conducted on groundwater samples collected from the four monitoring wells (STMW-101, STMW-102, STMW-103 and MW-4) were found to be below laboratory reporting limits for all constituents analyzed.

The results of the 3rd Quarter 2010 groundwater monitoring event indicate the following:

- The average groundwater elevation at the site was 511.25 feet AMSL and the groundwater flow was variable for this event.
- The results of analyses conducted on groundwater samples collected from all eight monitoring wells (STMW-1, STMW-2, STMW-3, P-1, MW-4, MW-101, MW-102, and MW-103) did not detect total petroleum hydrocarbons as gasoline (TPH-G) above laboratory reporting limits.
- Concentrations of Methyl tertiary Butyl Ether (MtBE) were detected in groundwater samples collected from two of the sites eight monitoring wells STMW-1 (5.9 µg/l), and P-1 (5.4 µg/l). Figure 5 is a contour map showing the distribution of MtBE concentrations for the 3rd Quarter 2010 monitoring event. The contours suggest the MtBE groundwater plume is localized in the vicinity of monitoring well P-1.
- Concentrations of Tert-Butyl Alcohol (TBA) were detected in groundwater samples collected from three of the sites eight monitoring wells sampled during the 3rd quarter of 2010 STMW-1 (87 µg/l), STMW-2 (33 µg/l), and P-1 (120 µg/l). Figure 6 is a contour map showing the distribution of TBA concentrations for the 3rd Quarter 2010 event. The contours mirror the same conclusion as for the MtBE groundwater plume, the TBA groundwater plume is localized in the vicinity of monitoring well P-1.
- Concentrations of di-isopropyl alcohol (DIPE), ethyl-tertiary butyl ether (EtBE), tert-amyl-methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), methanol, ethanol, benzene, toluene, ethylbenzene and total xylenes (BTEX) were not detected in groundwater samples collected from the sites eight monitoring wells.
- Concentrations of MtBE and TBA reported in the groundwater samples collected from the sites four monitoring wells STMW-1, STMW-2, STMW-3 and P-1 are at or near historic or near lows for the 3rd quarter of 2010.

- Dissolved Oxygen (DO) concentrations increased in all wells that were incorporated into the hydrogen peroxide pilot test (see following discussion) except for MW-101, and MW-103, which are screened in the course grained sand unit.

5. REMEDIAL EFFECTIVENESS

5.1. Hydrogen Peroxide Pilot Study

A summary of the hydrogen peroxide injections pilot test activities has been included in the *Additional Site Characterization and Interim Remedial Action Report* prepared by GTI, dated July 30, 2010.

The hydrogen peroxide injection pilot test consisted of a total of 16 injection events conducted from March 30, 2010 through July 21, 2010. Table 5 of Appendix A contains a summary of the volumes, concentrations, wells, and dates of application for each of the injection events.

5.2. Impact on D.O. Concentrations

The following table includes a summary of the D.O. concentrations that were monitored in the field before during and after the injection events. Please note that STMW-2 did not receive any hydrogen peroxide, but has been included for comparison purposes.

Location	Pre Remedial DO Level (2/10/2010)	Mid Remedial DO Level (4/7/10)	Post Remedial DO level (8/24/10)
STMW-1	6.77	46.5	43.37
STMW-2	0.87	3.65	0.53
STMW-3	0.89	44.26	45.92
P1	0.85	41.56	25.20

It appears that each of the injection wells has experienced a significant increase in D.O. concentrations which appears to have sustained the increase at least a month after the pilot test injections had stopped.

MW-101, and MW-103 did not exhibit the sustained increase in D.O., and it is hypothesized that the wells are screened in a coarse grained unit, which has increased potential for transport, and the benefit of the hydrogen peroxide injection may have moved down gradient towards the small amount of contamination identified in the vicinity of GP-15.

5.3. Impact on Contamination Concentrations

The third quarter groundwater monitoring event analytical data has indicated historic or near historic lows of contaminant concentrations for the site. It is important to note that the third

quarter groundwater monitoring event was conducted more than 30 days following the last injection event, to allow for potential rebound of concentrations. The following table is a summary of the MtBE and TBA concentrations reported to be present before and after the pilot test injection events:

Location	MtBE (µg/l)		TBA (µg/l)	
	Pre Pilot Test (2/10/10)	Post Pilot Test (8/24/10)	Pre Pilot Test (2/10/10)	Post Pilot Test (8/24/10)
STMW-1	32	5.9	28	87
STMW-2	<0.5	<0.5	110	33
STMW-3	44	<0.5	610	<5.0
P-1	110	5.4	5,200	120

Based on the above analytical data it appears that the pilot test was effective at reducing MtBE and TBA concentrations.

5.4. Environmental Screening Levels

Maximum concentrations reported in the 3rd quarter 2010 groundwater monitoring event were compared to Table F-1a. Groundwater Screening Levels (groundwater is a current or potential drinking water resource) of *Screening for Environmental Concerns with Contaminated Soil and Groundwater Interim Final – November 2007 (Revised May 2008)* prepared by the California Regional Water Quality Control Board San Francisco Bay Region.

COC	3rd Qtr 2010 Max Conc. (µg/l)	Table F-1a ESL (µg/l)
TPH-Gasoline	ND<50	100
MtBE	5.9	5
TBA	120	12

MtBE was reported to be above ESLs (based on taste and odor) in P-1 only, but was below the California Drinking Water Maximum Contaminant Level of 13 µg/l in all wells. TBA was reported to be present above ESLs (based on drinking water toxicity) in wells STMW-1, STMW-2, and P-1.

5.5. Opinion of Effectiveness

It is GTI's opinion that the interim remedial activities consisting of hydrogen peroxide injection pilot test was successful and that ISCO is an effective technology to address the contamination in the subsurface.

It is hypothesized that a small amount of residual contamination located in the northwest area of the former USTs (in the vicinity of SB-8) may be sourcing the groundwater plume that is being reported in samples collected from P1 and STMW-1.

5.6. Further Interim Action

In order to achieve contaminant levels below ESL's, it is recommended that additional pilot study work be conducted, including injecting into STMW-2. STMW-2 and MW-102 are believed to be located up-gradient of a small pocket of contamination that may be sourcing the groundwater plume. It is proposed that introducing hydrogen peroxide into STMW-2 and MW-102 will address the contamination present in the vadose zone and any contamination in the deeper interval. With MW-102 screened in the coarser grained unit, it is expected to have a large radius of influence.

Further hydrogen peroxide pilot study is proposed, consisting of 12 injection events, including STMW-1, STMW-2, STMW-3, P-1, MW-101, MW-102, and MW-103.

Based on the results of the previous pilot testing, GTI has determined that the wells do not all accept the 50 gallons initially proposed. Wells STMW-1 and P-1 have been observed to accept 10 gallons or less. In order to maximize the effectiveness of the injections, it is proposed that a 10% solution of hydrogen peroxide be injected into each of these wells.

The remaining wells will receive 50 gallons of 7% hydrogen peroxide solution, with the exception of STMW-3, which has been observed to accept 30 gallons per injection event. Up to 50 gallons of water will be injected into each well following the hydrogen peroxide injection to assist with introducing the oxidizing agent into the formation. It is proposed that field parameters such as D.O. and ORP be collected prior to the 1st injection event. Field parameters for all wells will be collected during the 4th quarter 2010 groundwater monitoring event, for an indication of mid-pilot test conditions.

It is anticipated that the 12 injection events can be performed before the next semi-annual groundwater monitoring event, including a minimum two week cessation prior to the 4th quarter 2010 groundwater monitoring event of the new monitoring wells, as directed by ACEH. The 1st quarter 2011 groundwater monitoring event will be scheduled a minimum of 30 days following the last injection event, to allow for potential rebound. Field parameters from this event will provide post study conditions.

If the pilot study continuation is successful, it is anticipated that further reductions in MtBE and TBA concentrations will be observed, and Pre, Mid, and Post study field parameters such as D.O. and ORP are expected to be elevated and potentially sustained in the subsurface following pilot test work. Further, if the pilot study is successful, at its conclusion it is anticipated that the site can be considered for low risk closure.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

- The historical groundwater trend is variable, although in the past a northwesterly direction has been observed.
- The results of analyses conducted on groundwater samples collected during the 2nd quarter of 2010 from the four new monitoring wells (STMW-101, STMW-102, STMW-103 and MW-4) were found to be below laboratory reporting limits for all constituents analyzed (ND).
- The results of analysis for the third quarter 2010 sampling event indicated that all eight wells were ND for TPH-g, with MTBE reported to be present in two wells and TBA reported to be present in three wells at or near historic lows for the site.
- Interim Remedial Activities included a hydrogen peroxide injection pilot test, which consisted of a total of 16 injection events conducted from March 30, 2010 through July 21, 2010.
- It appears that the injection wells have experienced a significant increase in D.O. concentrations which appears to have sustained the increase at least a month after the pilot test injections had stopped.
- Post pilot test monitoring has indicated that MtBE was reported to be below ESLs (based on taste and odor) in all wells except for P-1, and was below the California Drinking Water Maximum Contaminant Level of 13 µg/l in all wells; and TBA was reported to be present above ESLs (based on drinking water toxicity) in wells STMW-1, STMW-2, and P-1.
- It is GTI's opinion that the interim remedial activities consisting of hydrogen peroxide injection pilot test was successful and that ISCO is an effective technology to address the MTBE and TBA contamination in the subsurface.
- It is hypothesized that a small amount of residual contamination located in the northwest area of the former USTs (in the vicinity of SB-8) may be sourcing the groundwater plume that is being reported in samples collected from P1 and STMW-1.

Recommendations

- Based on 3rd quarter groundwater monitoring and sampling data, it is recommended that additional pilot study work include hydrogen peroxide injection into MW-2 and MW-102, which have been hypothesized to be located up-gradient of a small pocket of contamination that may be sourcing the groundwater plume along with the initial pilot test injection wells STMW-1/101, STMW-3/103, and P-1.
- Continue semi-annual groundwater monitoring as directed in the ACEHS correspondence dated July 2009, and quarterly monitoring of the newly installed wells through the 1st quarter 2011 groundwater monitoring event.

7. 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.

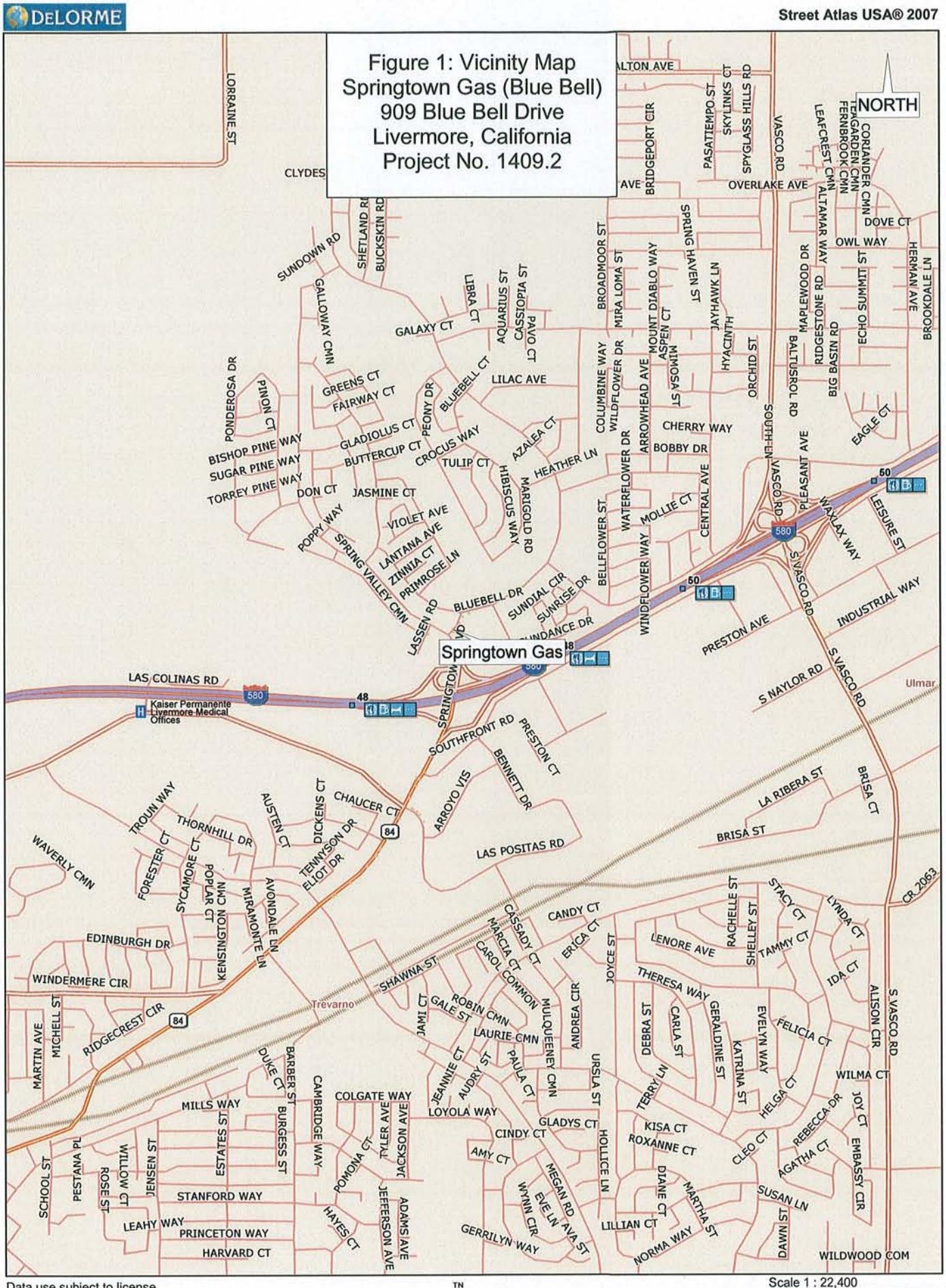
8. Signatures CERTIFICATION

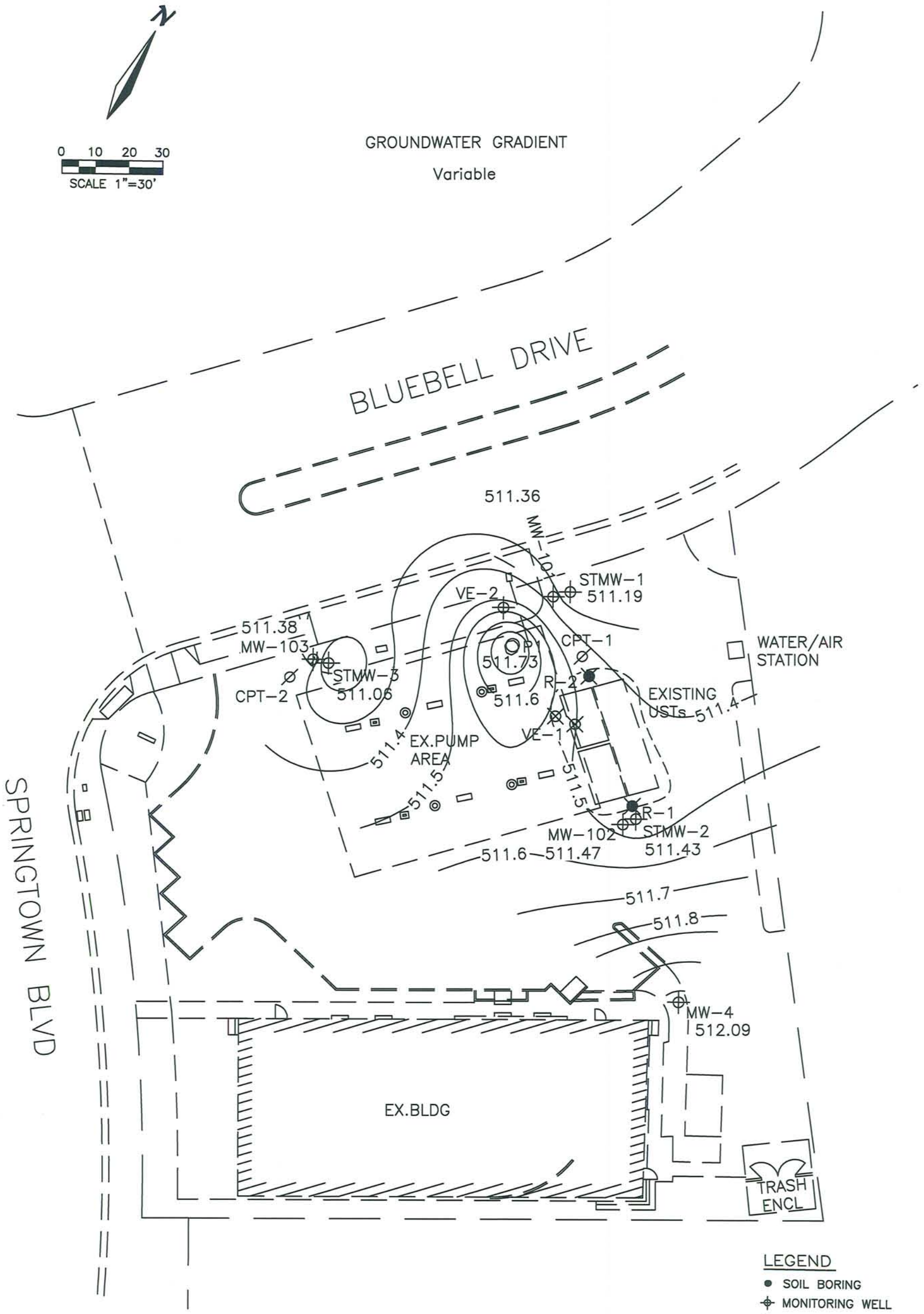
This report was prepared by:

Michael van den Enden, B.S.c
Geology

This report was prepared under the direction of:

Tamorah Bryant, P.E.


DeLORME
Street Atlas USA® 2007
Figure 1: Vicinity Map
Springtown Gas (Blue Bell)
909 Blue Bell Drive
Livermore, California
Project No. 1409.2
NORTH
Springtown Gas
LORRAINE ST
CLYDES
ALTON AVE
BRIDGEPORT CIR
PASATIEMPO ST
SKYLINKS CT
SPYGLASS HILLS RD
VASCO RD
OVERLAKE AVE
LEAFCREST CMN
FERNBROOK CMN
TEAGARDEN CMN
CORIANDER CMN
ALTAMAR WAY
DOVE CT
OWL WAY
HERMAN AVE
BROOKDALE LN
ECHO SUMMIT ST
MAPLEWOOD DR
RIDGESTONE RD
BIG BASIN RD
BALTUSROL RD
SOUTHERN VASCO RD
EAGLE CT
PLEASANT AVE
WAXLAX WAY
LEISURE ST
SUNDOWN RD
SHETLAND RD
BUCKSKIN RD
GALLOWAY CMN
GALAXY CT
LIBRA CT
AQUARIUS ST
CASSIOPIA ST
PAVO CT
BROADMOOR ST
MIRA LOMA ST
MOUNT DIABLO WAY
ASPEN CT
SPRING HAVEN ST
JAYHAWK LN
HYACINTH
ORCHID ST
MIMOSA ST
COLUMBINE WAY
WILDFLOWER DR
ARROWHEAD AVE
CHERRY WAY
BOBBY DR
PONDEROSA DR
PINON CT
GREENS CT
FAIRWAY CT
LILAC AVE
BLUEBELL CT
PEONY DR
BISHOP PINE WAY
SUGAR PINE WAY
TORREY PINE WAY
GLADIOLUS CT
BUTTERCUP CT
CROCUS WAY
TULIP CT
AZALEA CT
HEATHER LN
DON CT
JASMINE CT
VIOLET AVE
LANTANA AVE
ZINNIA CT
PRIMROSE LN
POPPY WAY
SPRING VALLEY CMN
HIBISCUS WAY
MARIGOLD RD
BELLFLOWER ST
WATERFLOWER DR
MOLLIE CT
CENTRAL AVE
WINDFLOWER WAY
LASSEN RD
BLUEBELL DR
SUNDIAL CIR
SUNRISE DR
SUNDANCE DR
PRESTON AVE
INDUSTRIAL WAY
S VASCO RD
S NAYLOR RD
Ulmar
LAS COLINAS RD
Kaiser Permanente
Livermore Medical
Offices
SOUTHFRONT RD
PRESTON CT
BENNETT DR
ARROYO VIS
LAS POSITAS RD
LA RIBERA ST
BRISA CT
BRISA ST
CR 2063
TROUN WAY
THORNHILL DR
AUSTEN CT
DICKENS CT
CHAUCER CT
TENNYSON DR
ELIOT DR
WAVERLY CMN
FORESTER CT
SYCAMORE CT
POPLAR CT
MIRAMONTE CMN
AVONDALE LN
KENSINGTON LN
EDINBURGH DR
WINDERMERE CIR
RIDGECREST CIR
MARTIN AVE
MICHELL ST
Trevarno
SHAWNA ST
CANDY CT
CASSADY CT
MARCIA CT
CAROL COMMON
ERICA CT
JOYCE ST
LENORE AVE
RACHELLE ST
SHELLEY ST
STACY CT
LYNDA CT
TAMMY CT
IDA CT
ALISON CIR
THERESA WAY
DEBRA ST
CARLA ST
GERALDINE ST
EVELYN WAY
KATRINA ST
FELICIA CT
WILMA CT
HELGA CT
JOY CT
REBECCA DR
EMBASSY CIR
AGATHA CT
CLEO CT
ROXANNE CT
KISA CT
TERRY LN
ANDREA CIR
MULQUEENEY CMN
URSLA ST
HOLLICE LN
LAURIE CMN
ROBIN CMN
GALE ST
JAMI CT
JEANNIE CT
AUDRY ST
PAULA CT
LOYOLA WAY
GLADYS CT
CINDY CT
AMY CT
MEGAN RD
EVE LN
AVA ST
WYNN CIR
GERRILYN WAY
LILLIAN CT
DIANE CT
MARTHA ST
NORMA WAY
SUSAN LN
DAWN ST
WILDWOOD COM
DUKE CT
BARBER ST
BURGESS ST
CAMBRIDGE WAY
COLGATE WAY
MILLS WAY
ESTATES ST
TYLER AVE
JACKSON AVE
ROMONA CT
JEFFERSON AVE
ADAMS AVE
HAYES CT
SCHOOL ST
PESTANA PL
WILLOW CT
ROSE ST
JENSEN ST
STANFORD WAY
LEAHY WAY
PRINCETON WAY
HARVARD CT
Data use subject to license.
© 2006 DeLorme. Street Atlas USA® 2007.
www.delorme.com
TN
MN (14.1°E)
Scale 1 : 22,400
1" = 1,866.7 ft
Data Zoom 13-2



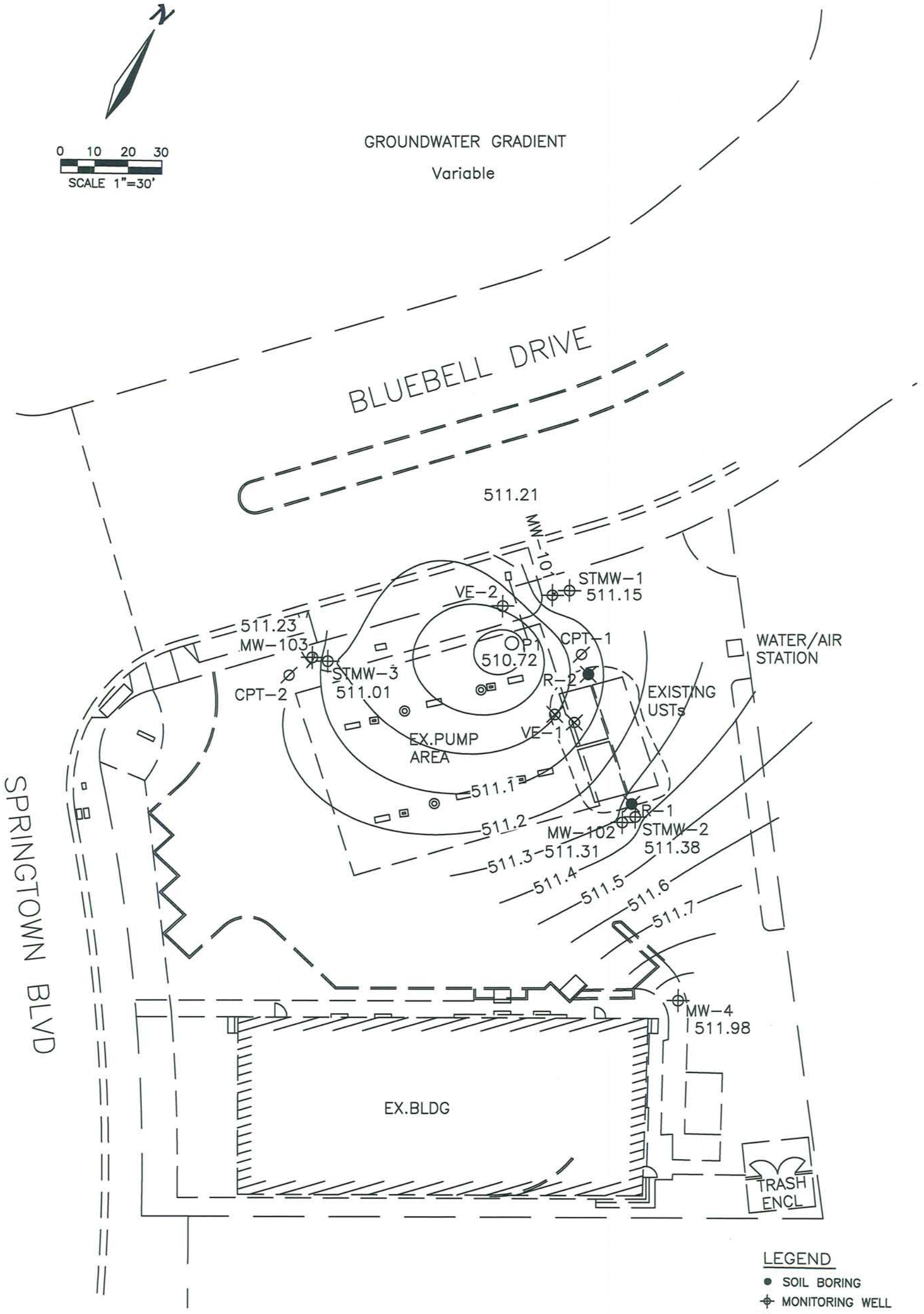
By:	MV
Job No:	1409.2 Date: 09/15/10
Scale:	1"=30'
File:	14092 site plan

Geological Technics, Inc.

1172 Kansas Avenue
Modesto, CA
95351
209.522.4119 (tel)
209.522.4227 (fax)

FIGURE 2: Groundwater Gradient Map
(2nd Quartqer)

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA



By:	MV
Job No:	1409.2 Date: 09/15/10
Scale:	1"=30'
File:	14092 site plan

Geological Technics, Inc.

1172 Kansas Avenue
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95351
209.522.4119 (tel)
209.522.4227 (fax)

FIGURE 3: Groundwater Gradient Map
(3rd Quarter)

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA

	Date	Slope	Bearing
1.	09/04/07	0.006 ft/ft	N66°W
2.	12/10/07	0.004 ft/ft	N62°W
3.	09/25/08	0.003 ft/ft	N54°W
4.	12/29/08	0.004 ft/ft	N64°W
5.	03/10/09	variable	variable
6.	06/10/09	variable	variable
7.	09/08/09	variable	variable
8.	02/10/10	variable	variable
9.	06/25/10	0.006 ft/ft	N41°W
10.	06/25/09	variable	variable
11.	08/24/10	variable	variable

N

0 10 20 30

SCALE 1"=30'

0 0.005

SLOPE (ft/ft)

BLUEBELL DRIVE

SPRINGTOWN BLVD

EX.BLDG

TRASH ENCL

WATER/AIR STATION

EXISTING USTs

EX.PUMP AREA

MW-101

MW-102

MW-103

MW-4

STMW-1

STMW-2

STMW-3

VE-1

VE-2

CPT-1

CPT-2

R-1

R-2

P1

LEGEND

- SOIL BORING
- MONITORING WELL
- UST MONITORING WELL
- EXTRACTION WELL
- CPT BORING
- PROPOSED PILOT TEST INJECTION WELL

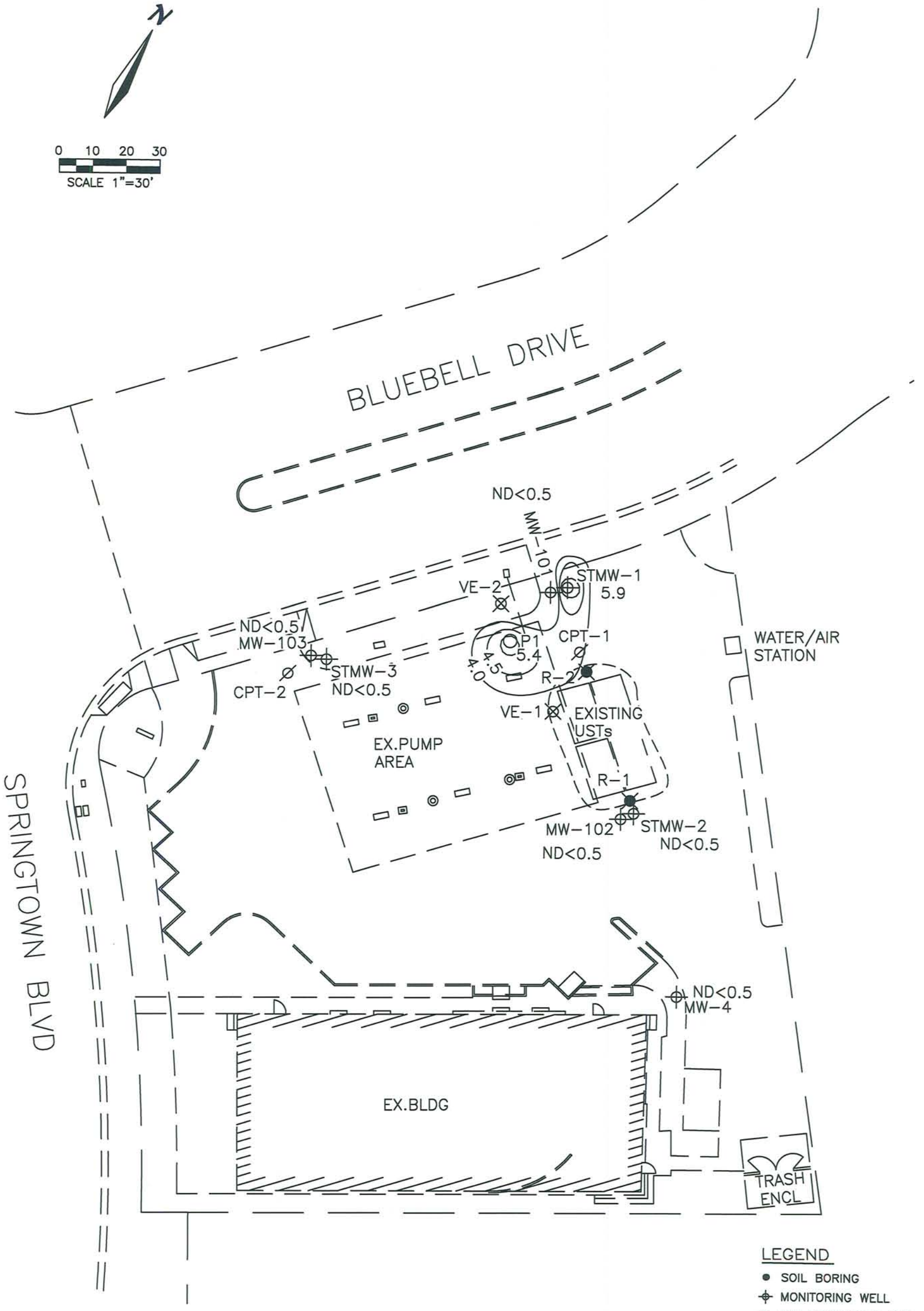
By: MV	
Job No: 1409.2 Date: 9/10/10	
Scale: 1"=30'	
File: 14092 site plan	

Geological Technics, Inc.

1172 Kansas Avenue
Modesto, CA
95351
209.522.4119 (tel)
209.522.4227 (fax)

FIGURE 4: Groundwater Gradient Rose Diagram

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA



By:	MV
Job No:	1409.2 Date: 09/10/10
Scale:	1"=30'
File:	14092 site plan

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Modesto, CA
95351
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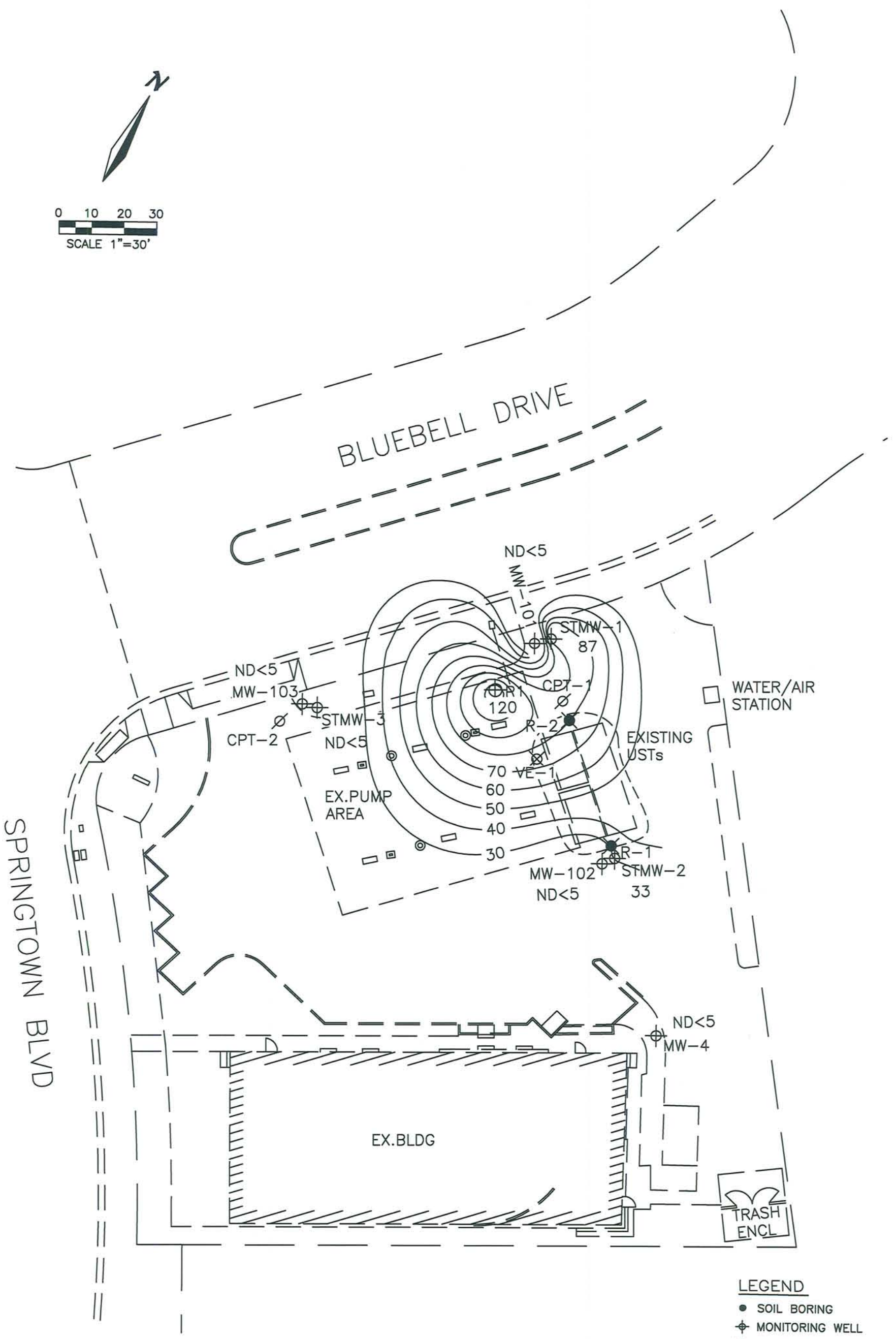
209.522.4227 (fax)

FIGURE 5: MTBE Contour Map

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA



By:	MV
Job No:	1409.2 Date: 09/10/10
Scale:	1"=30'
File:	14092 site plan

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Modesto, CA
95351
209.522.4119 (tel)
209.522.4227 (fax)

FIGURE 6: TBA Contour Map

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA

Appendix A

Summary Tables

Table 1
Summary of Groundwater Elevation

Springtown Gas
909 Bluebell Drive
Livermore, California

Date		STMW-1	STMW1	STMW-2	STMW2	STMW-3	STMW3	P-1	P-1	MW-4	MW-4	MW-101	MW-101	MW-102	MW-102	MW-103	MW-103	Avg GW	AVG GW	GW Gradient	
		GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	Elev	DTW	Slope	Direction
	*top of casing**	517.55		519.59		520.37		518.93		521.98		518.42		520.13		520.07				ft/ft	
9/4/2007		510.97	6.58	511.59	8.00	510.85	9.52	-	-	-	-	-	-	-	-	-	-	511.14	-	0.006	N66°W
12/10/2007		511.29	6.26	511.59	8.00	511.25	9.12	-	-	-	-	-	-	-	-	-	-	511.38	-	0.004	N62°W
9/25/2008		510.69	6.86	510.9	8.69	510.65	9.72	-	-	-	-	-	-	-	-	-	-	510.75	-	0.003	N54°W
11/20/2008		510.81	6.74	511.17	8.42	510.82	9.55	-	-	-	-	-	-	-	-	-	-	510.93	-	0.004	N60°W
12/29/2008		511.60	5.95	511.9	7.69	511.50	8.87	-	-	-	-	-	-	-	-	-	-	511.67	-	0.004	N64°W
3/10/2009		512.60	4.95	512.99	6.60	512.44	7.93	513.20	5.73	-	-	-	-	-	-	-	-	512.81	6.30	variable	variable
6/10/2009		510.90	6.65	511.21	8.38	510.84	9.53	511.50	7.43	-	-	-	-	-	-	-	-	511.11	8.00	variable	variable
9/8/2009		510.62	6.93	510.78	8.81	510.59	9.78	511.17	7.76	-	-	-	-	-	-	-	-	510.79	8.32	variable	variable
2/10/2010		512.39	5.16	512.68	6.91	512.00	8.37	512.95	5.98	-	-	-	-	-	-	-	-	512.51	6.61	variable	variable
6/25/2010		511.19	6.36	511.43	8.16	511.06	9.31	511.73	7.20	512.09	9.89	511.36	7.06	511.47	8.66	511.38	8.69	511.46	8.17	variable	variable
8/24/2010		511.15	6.40	511.38	8.21	511.01	9.36	510.72	8.21	511.98	10.00	511.21	7.21	511.31	8.82	511.23	8.84	511.25	8.38	variable	variable
																	Historical	511.44	7.63	0.004	N58°W

*TOC elevations surveyed on 9/06/07 by Muir Consutling Inc. for wells STMW-1, 2, 3, & P-1 NAD 83 and NGVD 29
*TOC elevations surveyed on 7/08/10 by Benchmark Engineering for wells MW-101, 102, 103, & MW-4
**Gradient and slope determined from computer generated contours
"-" Well P-1 not surveyed until 2/03/09

Table 2
Summary of Groundwater Analytical Data

Springtown Gas
909 Bluebell Drive
Livermore, California

MONITORING WELL	Date	TPHg	B	T	E	X	MtBE	TBA	DIPE	EtBE	TAME	1,2-DCA	EDB	Methanol	Ethanol
		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
STMW-1	9/4/2007	**220**	<10	<10	<10	<10	**850**	**6,500**	-	-	-	-	-	-	-
	12/10/2007	**210**	<5	<5	<5	<5	**540**	**4,200**	-	-	-	-	-	-	-
	9/25/2008	**230**	<0.5	<0.5	<0.5	<1.0	**204**	**704**	<0.5	<0.5	**0.6**	<0.5	<0.5	<5	<20
	11/20/2008	<50	<0.5	<0.5	<0.5	<1.0	**14**	**930**	<0.5	<0.5	<0.5	-	-	-	-
	12/29/2008	<50	<0.5	<0.5	<0.5	<1.0	**15**	**1,000**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	3/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**29**	**3,000**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**60**	**3,800**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	9/8/2009	<50	<0.5	<0.5	<0.5	<1.0	**52**	**190**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	2/10/2010	<50	<0.5	<0.5	<0.5	<1.0	**32**	**28**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/25/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	**5.9**	**87**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
STMW-2	9/4/2007	<50	<0.5	<0.5	<0.5	<0.5	<1	**42**	-	-	-	-	-	-	-
	12/10/2007	<50	<0.5	<0.5	<0.5	<0.5	<1	**83**	-	-	-	-	-	-	-
	9/25/2008	<50	<0.5	<0.5	<0.5	<1	<0.5	**71**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<20
	11/20/2008	**90**	**1.7**	**6.9**	**1.7**	**7.6**	**2.2**	**190**	<0.5	<0.5	<0.5	-	-	-	-
	12/29/2008	<50	<0.5	<0.5	<0.5	<1.0	<0.5	**56**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	3/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**1.5**	**96**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**1.1**	**43**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	9/8/2009	<50	<0.5	<0.5	<0.5	<1.0	<0.5	**45**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	2/10/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	**110**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/25/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	**33**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
STMW-3	9/4/2007	**59**	<1	<1	<1	<1	**160**	**120**	-	-	-	-	-	-	-
	12/10/2007	<50	<0.5	<0.5	<0.5	<0.5	**17**	**86**	-	-	-	-	-	-	-
	9/25/2008	<50	<0.5	<0.5	<0.5	<0.5	**67**	**31.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<20
	11/20/2008	<50	<0.5	<0.5	<0.5	<1.0	**12**	<5	<0.5	<0.5	<0.5	-	-	-	-
	12/29/2008	<50	<0.5	<0.5	<0.5	<1.0	**2.2**	<5.	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	3/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**3**	**95**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**8.3**	**45**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	9/8/2009	<50	<0.5	<0.5	<0.5	<1.0	**11**	**29**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	2/10/2010	<50	<0.5	<0.5	<0.5	<1.0	**44**	**610**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/25/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	ND<0.5	ND<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
P1	11/20/2008	<50	<5	<5	<5	<10	**180**	**2,300**	<5	<5	<5	-	-	-	-
	12/29/2008	<50	<0.5	<0.5	<0.5	<1.0	**120**	**3,900**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	3/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**240**	**9,300**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	6/10/2009	<50	<0.5	<0.5	<0.5	<1.0	**250**	**6,300**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	9/8/2009	<250	<2.5	<2.5	<2.5	<5	**180**	**2,900**	<2.5	<2.5	<2.5	<2.5	<2.5	<250	<25
	2/10/2010	<250	<2.5	<2.5	<2.5	<5	**110**	**5,200**	<2.5	<2.5	<2.5	<2.5	<2.5	<250	<25
	6/25/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	**5.4**	**120**	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
MW-4	6/25/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
MW-101	6/25/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
MW-102	6/25/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
MW-103	6/25/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5
	8/24/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<5

Notes:

TPHg	Total petroleum hydrocarbons as gasoline
TPHd	Total petroleum hydrocarbon
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MtBE	Methyl tertiary butyl ether
TBA	Tert-butyl alcohol
DIPE	Di-isopropyl ether
EtBE	Ethyl-tertiary butyl ether
TAME	Tert-amyl-methyl ether
1,2-DCA	1,2-Dichloroethane
EDB	1,2-Dibromoethane
bgs	below ground surface
ug/l	micrograms per liter
-	Not analyzed or not reported

Table 3
Summary of Water Quality Parameter Data

Springtown Gas
909 Bluebell Drive
Livermore, California

Monitoring Well	STMW-1						STMW-2						STMW-3					
Date	pH	E.C.	°C	°F	ORP	DO	pH	E.C.	°C	°F	ORP	DO	pH	E.C.	°C	°F	ORP	DO
9/4/2007	6.37	1462	21.4	70.5	NM	NM	6.43	1405	21.1	70.0	NM	NM	6.14	2115	20	68.0	NM	NM
12/10/2007	6.92	1090	18.5	65.3	NM	NM	7.02	1074	19.8	67.6	NM	NM	6.77	1267	NM	NM	NM	NM
9/25/2008	7.22	1706	21.63	70.9	48.3	0.38	7.15	1652	21.26	70.3	34	0.7	6.84	1838	20.32	68.6	60.2	0.84
10/2/2008	7.16	1701	21.57	70.8	45.6	0.68	7.07	1650	21.14	70.1	51.8	0.58	6.82	1892	20.47	68.8	156	1.81
10/9/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/16/2008	7.53	970	21.48	70.7	71.6	36.39	7.07	1611	21.35	70.4	56.7	0.21	7.38	656	20.64	69.2	66.6	37.4
10/23/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/30/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/6/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/20/2008	7.36	1554	20.74	69.3	208.3	11.17	7.20	1782	21.21	70.2	211.4	1.13	7.88	771	20.63	69.1	194.6	15.53
12/29/2008	7.78	1685	18.61	65.5	168.8	41.24	7.64	1577	20.21	68.4	66.9	2.04	7.55	1196	19.69	67.4	141.5	32.54
3/10/2009	7.23	1861	16.14	61.1	401.3	20.56	7.31	1600	17.94	64.3	372.9	0.67	7.10	1555	17.29	63.1	509.3	7.17
6/10/2009	7.24	1624	18.76	65.8	469.2	12.69	7.30	1548	18.58	65.4	348.7	0.38	7.08	1476	17.97	64.3	557.5	2.17
9/8/2009	7.07	NM	21.66	71.0	544.3	NM	7.22	NM	20.88	69.6	250.1	NM	6.83	NM	20.15	68.3	564.2	NM
2/10/2010	7.35	1660	17.09	62.8	531.3	6.77	7.30	1618	18.71	65.7	394.4	0.87	7.20	1642	17.99	64.4	469.0	0.89
6/25/2010	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
8/24/2010	6.44	707	20.79	69.4	195.7	43.37	6.32	1730	20.45	68.8	135.9	0.53	6.61	384	20.10	68.2	255.2	45.92

Monitoring Well	P-1						VE-1						VE-2					
Date	pH	E.C.	°C	°F	ORP	DO	pH	E.C.	°C	°F	ORP	DO	pH	E.C.	°C	°F	ORP	DO
9/4/2007	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
12/10/2007	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/25/2008	7.2	1941	20.6	69.1	50.3	1.19	6.9	2072	22.8	73.0	-44.9	3.07	7.1	1933	21.67	71.0	-13.6	6.48
10/2/2008	7.1	1893	20.44	68.8	59.6	1.18	7.18	1780	22.02	71.6	2.1	8.29	NM	NM	NM	NM	NM	NM
10/9/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/16/2008	7.75	1285	20.61	69.1	85.9	18.23	6.84	1668	22.29	72.1	3.3	1.53	7.16	1912	21.38	70.5	-1.1	7.25
10/23/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	7.42	1924	19.91	67.8	49.6	8.48
10/30/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	7.81	1052	20.05	68.1	164.0	172.1
11/6/2008	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	7.13	1329	19.94	67.9	183.5	9.77
11/20/2008	7.99	1392	19.96	67.9	180	8.19	6.99	1960	18.91	66.0	38.6	4.82	6.89	1593	19.47	67.0	224.5	9.09
12/29/2008	7.99	1766	18.99	66.2	285.5	43.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/10/2009	7.30	1797	16.81	62.3	473.9	3.03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
6/10/2009	7.34	1795	17.85	64.1	455.7	1.09	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/8/2009	7.14	NM	19.98	68.0	312.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
2/10/2010	7.42	1658	17.22	63.0	139.0	0.85	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
6/25/2010	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
8/24/2010	7.99	632	20.95	69.7	206.4	25.20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Monitoring Well	MW-4						MW-101						MW-102					
Date	pH	E.C.	°C	°F	ORP	DO	pH	E.C.	°C	°F	ORP	DO	pH	E.C.	°C	°F	ORP	DO
6/25/2010	7.20	1228	18.2	64.8	165.5	0.05	7.2	1077	19.4	66.9	248.3	30.27	7.10	1042	19.6	67.3	190.3	6.35
8/24/2010	6.11	1343	19.27	66.7	125.7	0.94	6.58	1170	19.80	67.6	178.5	7.36	6.44	1141	19.81	67.7	129.3	5.22

Monitoring Well	MW-103					
Date	pH	E.C.	°C	°F	ORP	DO
6/25/2010	7.12	1316	19.1	66.4	277.3	29.46
8/24/2010	6.56	1464	19.32	66.8	192.1	23.64

Notes:

E.C.	Electricval conductivity
°C	Degrees centigrade
°F	Degrees fahrenheit
ORP	Oxygen reduction potential
DO	Dissolved oxygen
NM	Not measured

Table 4
Summary of Monitoring Well Completion Data

Springtown Gas
909 Bluebell Drive
Livermore, California

Well 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
STMW-1	Active	8/23/2007	20	10	2	PVC	0.02	#2/12	10	20	20	8	8	7	7	0
STMW-2	Active	8/23/2007	20	10	2	PVC	0.02	#2/12	10	20	20	8	8	7	7	0
STMW-3	Active	8/23/2007	20	10	2	PVC	0.02	#2/12	10	20	20	8	8	7	7	0
P1	Active	9/19/2008	20	10	4	PVC	0.02	#3/12	10	20	20	8	8	7	7	0
MW-4	Active	2/25/2010	20	8	2	PVC	0.02	#3/12	10	20	20	8	8	5	5	0
MW-101	Active	2/25/2010	37	8	2	PVC	0.02	#3/12	32	37	37	30	30	28	28	0
MW-102	Active	2/25/2010	40	8	2	PVC	0.02	#3/12	32	40	40	30	30	27	27	0
MW-103	Active	2/26/2010	35	8	2	PVC	0.02	#3/12	30	35	35	28	28	25	25	0

Table 5
Summary of Hydrogen Peroxide Injections

Springtown Gas
909 Bluebell Drive
Livermore, California

DATE	STMW-1		STMW-3		P1		MW-101		MW-103	
	7%	**10%**	**7%**	**10%**	**7%**	**10%**	**7%**	**10%**	**7%**	**10%**
3/30/2010	65		60		25					
4/7/2010	75		50		25					
4/15/2010	10		30		10		50		50	
4/22/2010	15		30		10		55		50	
4/30/2010		15		30		8		50		47
5/5/2010		10		35		5		50		50
5/11/2010		10		35		5		50		50
5/18/2010		10		25		5		45		45
5/26/2010		10		25		5		55		55
6/2/2010		10		50		7		50		35
6/9/2010	10		50		8		35		40	
6/16/2010	15		45			7	45		40	
7/1/2010	15		40			7	45		45	
7/8/2010	10		30			10	50		50	
7/14/2010	10		30			10	50		50	
7/21/2010	10		25			10	50		50	
Totals	235	65	390	200	78	79	380	300	375	282

Appendix B

Laboratory Analytical Data Sheets

argon laboratories

03 September 2010

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

RE: Springtown Gas Project Data

Enclosed are the results for sample(s) received on 08/25/10 14:49 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

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: main@argonlabs.com

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

Chain of Custody

Project #:	Client/Project Name:
1409.2	SPRINGTOWN GAS

Site Address: 909 BLUEBELL Dr., LIVERMORE, CA

Global ID No.: T0601971619?

Sampled By: (print and sign name) Eric Nam

Laboratory: ARGON LABS

Temp. @ Shipping: C°

Temp. @ Lab Receipt: C°

Purchase Order # 1409-362281

EDF Report: ☒ Yes ☐ No

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

Date	Time	Field I.D.	Sample I.D.	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	* Analysis Requested: TPH-G, BTEX & 9 OXY'S (8260B)
8/24/10	1020		MW-4	4	W	HCL	
	1100		MW-101	4	W		
	1140		MW-102	4	W		
	1205		MW-103	4	W		
	1305		STMW-2	4	W		
	1400		STMW-1	4	W		
	1420		STMW-3	4	W		
	1430		P-1	4	W		

Remarks

* THE 9 OXY'S INCLUDE:
MTBE, ETBE, DIPE, TAME, TBA,
1,2-DCA, EDB, METHANOL, ETHANOL
(METHOD 8260B)

- REPORTING LIMITS -

TPH-G → RL = 50 µg/L
BTEX → RL = 0.5 µg/L
9 OXY'S → RL = 0.5 µg/L

Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:
Eric Nam	8/24/10	1610	Lucia D	8/25/10	8:30
Lucia D	8/25/10	1449	Sharon Hartman	8/25/10	1449

Please return cooler/ice chest to Geological Technics Inc.

Rev. 2/2009

Argon Laboratories Sample Receipt Checklist

Client Name: Geological Technics Date & Time Received: 08/25/10 14:49

Project Name: Springtown Gas Client Project Number: 1409.2

Received By: SH Matrix: Water ☑ Soil ☐ Sludge ☐

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

Argon Labs Project Number: K008053

Shipper Container in good condition? N/A_____	Yes	☑	No	☐	Samples received in proper containers?	Yes ☑	No ☐
					Samples received intact?	Yes ☑	No ☐
Samples received under refrigeration?	Yes	☑	No	☐	Sufficient sample volume for requested tests?	Yes ☑	No ☐
Chain of custody present?	Yes	☑	No	☐	Samples received within holding time?	Yes ☑	No ☐
Chain of Custody signed by all parties?	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:

♥ ♣ ♦ ♠

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.:
K008053

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	K008053-01	Water	08/24/10 10:20	08/25/10 14:49
MW-101	K008053-02	Water	08/24/10 11:00	08/25/10 14:49
MW-102	K008053-03	Water	08/24/10 11:40	08/25/10 14:49
MW-103	K008053-04	Water	08/24/10 12:05	08/25/10 14:49
STMW-2	K008053-05	Water	08/24/10 13:05	08/25/10 14:49
STMW-1	K008053-06	Water	08/24/10 14:00	08/25/10 14:49
STMW-3	K008053-07	Water	08/24/10 14:20	08/25/10 14:49
P-1	K008053-08	Water	08/24/10 14:30	08/25/10 14:49

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.: K008053

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-4 (K008053-01) Water Sampled: 24-Aug-10 10:20 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*83 %*			"	"	
MW-101 (K008053-02) Water Sampled: 24-Aug-10 11:00 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*85 %*			"	"	

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.: K008053

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-102 (K008053-03) Water Sampled: 24-Aug-10 11:40 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*84 %*			"	"	
MW-103 (K008053-04) Water Sampled: 24-Aug-10 12:05 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*80 %*			"	"	

Approved By

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.: K008053

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
STMW-2 (K008053-05) Water Sampled: 24-Aug-10 13:05 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	**33**	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*81 %*			"	"	
STMW-1 (K008053-06) Water Sampled: 24-Aug-10 14:00 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	**87**	5.0	"	"	"	"	
Methyl tert-Butyl Ether	**5.9**	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*79 %*			"	"	

Approved By

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.: K008053

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
STMW-3 (K008053-07) Water Sampled: 24-Aug-10 14:20 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*83 %*			"	"	
P-1 (K008053-08) Water Sampled: 24-Aug-10 14:30 Received: 25-Aug-10 14:49							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	26-Aug-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	**120**	5.0	"	"	"	"	
Methyl tert-Butyl Ether	**5.4**	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*79 %*			"	"	

Approved By

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

Geological Technics, Inc. 1101 7th Street Modesto, CA 95354	Project Number: 1409.2 Project Name: Springtown Gas Project Manager:GTI	Work Order No.: K008053

TPH-gas & Volatile Organic Compounds by GC/MS - Quality Control

Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch K001290 - EPA 5030B										
Blank (K001290-BLK1)				Prepared & Analyzed: 08/26/10						
Surrogate: Fluorobenzene	*40.5*		*ug/L*	*50*		*81*	*70-130*			
Total Petroleum Hydrocarbons @ Gasoline	ND	50	"							
Benzene	ND	0.5	"							
Toluene	ND	0.5	"							
Xylenes, total	ND	1.0	"							
Ethyl Benzene	ND	0.5	"							
Methanol	ND	50	"							
Ethanol	ND	5.0	"							
t-Butanol	ND	5.0	"							
Methyl tert-Butyl Ether	ND	0.5	"							
Di-Isopropyl Ether	ND	0.5	"							
Ethyl tert-Butyl Ether	ND	0.5	"							
tert-Amyl Methyl Ether	ND	0.5	"							
1,2-Dichloroethane	ND	0.5	"							
1,2-Dibromoethane (EDB)	ND	0.5	"							
LCS (K001290-BS1)				Prepared & Analyzed: 08/26/10						
Methyl tert-Butyl Ether	27.3		ug/L	25		109	80-120			
LCS Dup (K001290-BSD1)				Prepared & Analyzed: 08/26/10						
Methyl tert-Butyl Ether	28.2		ug/L	25		113	80-120	3	20	
Matrix Spike (K001290-MS1)		**Source: K008053-01**		Prepared & Analyzed: 08/26/10						
Total Petroleum Hydrocarbons @ Gasoline	985		ug/L	1000	ND	98	70-130			
Matrix Spike Dup (K001290-MSD1)		**Source: K008053-01**		Prepared & Analyzed: 08/26/10						
Total Petroleum Hydrocarbons @ Gasoline	951		ug/L	1000	ND	95	70-130	4	20	

Approved By

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

Geological Technics, Inc. 1101 7th Street Modesto, CA 95354	Project Number: 1409.2 Project Name: Springtown Gas Project Manager:GTI	Work Order No.: K008053

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

argon laboratories

08 July 2010

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

RE: Springtown Gas Project Data

Enclosed are the results for sample(s) received on 06/28/10 14:11 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

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: main@argonlabs.com

Argon Laboratories Sample Receipt Checklist

Client Name: Geological Technics Inc. Date & Time Received: 06/28/10 14:11

Project Name: Springtown Gas Client Project Number: 1409.2

Received By: D.C. Matrix: Water ☑ Soil ☐ Sludge ☐

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

Argon Labs Project Number: K006074

Shipper Container in good condition? N/A____ Yes ☑ No ☐

Samples received under refrigeration? Yes ☑ No ☐

Chain of custody present? Yes ☑ No ☐

Chain of Custody signed by all parties? Yes ☑ No ☐

Chain of Custody matches all sample labels? Yes ☑ No ☐

Samples received in proper containers? Yes ☑ No ☐

Samples received intact? Yes ☑ No ☐

Sufficient sample volume for requested tests? Yes ☑ No ☐

Samples received within holding time? Yes ☑ No ☐

Do samples contain proper preservative? N/A ☐ 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:

♥ ♣ ♦ ♠

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.:
K006074

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-103	K006074-01	Water	06/25/10 10:40	06/28/10 14:11
MW-101	K006074-02	Water	06/25/10 11:20	06/28/10 14:11
MW-102	K006074-03	Water	06/25/10 12:05	06/28/10 14:11
MW-4	K006074-04	Water	06/25/10 13:00	06/28/10 14:11

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.:
K006074

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-103 (K006074-01) Water Sampled: 25-Jun-10 10:40 Received: 28-Jun-10 14:11							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	02-Jul-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*87 %*			"	"	
MW-101 (K006074-02) Water Sampled: 25-Jun-10 11:20 Received: 28-Jun-10 14:11							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	02-Jul-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*89 %*			"	"	

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argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager:GTI

Work Order No.:
K006074

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-102 (K006074-03) Water Sampled: 25-Jun-10 12:05 Received: 28-Jun-10 14:11							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	02-Jul-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*87 %*			"	"	
MW-4 (K006074-04) Water Sampled: 25-Jun-10 13:00 Received: 28-Jun-10 14:11							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	02-Jul-10	EPA 8260B	
Benzene	ND	0.5	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	
Ethyl Benzene	ND	0.5	"	"	"	"	
Methanol	ND	50	"	"	"	"	
Ethanol	ND	5.0	"	"	"	"	
t-Butanol	ND	5.0	"	"	"	"	
Methyl tert-Butyl Ether	ND	0.5	"	"	"	"	
Di-Isopropyl Ether	ND	0.5	"	"	"	"	
Ethyl tert-Butyl Ether	ND	0.5	"	"	"	"	
tert-Amyl Methyl Ether	ND	0.5	"	"	"	"	
1,2-Dichloroethane	ND	0.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.5	"	"	"	"	
Surr. Rec.:		*88 %*			"	"	

Approved By

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

argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

Geological Technics, Inc. 1101 7th Street Modesto, CA 95354	Project Number: 1409.2 Project Name: Springtown Gas Project Manager:GTI	Work Order No.: K006074

TPH-gas & Volatile Organic Compounds by GC/MS - Quality Control

Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch K000997 - EPA 5030B										
Blank (K000997-BLK1)				Prepared & Analyzed: 07/02/10						
Surrogate: Fluorobenzene	*42.5*		*ug/L*	*50*		*85*	*70-130*			
Total Petroleum Hydrocarbons @ Gasoline	ND	50	"							
Benzene	ND	0.5	"							
Toluene	ND	0.5	"							
Xylenes, total	ND	1.0	"							
Ethyl Benzene	ND	0.5	"							
Methanol	ND	50	"							
Ethanol	ND	5.0	"							
t-Butanol	ND	5.0	"							
Methyl tert-Butyl Ether	ND	0.5	"							
Di-Isopropyl Ether	ND	0.5	"							
Ethyl tert-Butyl Ether	ND	0.5	"							
tert-Amyl Methyl Ether	ND	0.5	"							
1,2-Dichloroethane	ND	0.5	"							
1,2-Dibromoethane (EDB)	ND	0.5	"							
LCS (K000997-BS1)				Prepared & Analyzed: 07/02/10						
Methyl tert-Butyl Ether	23.5		ug/L	25		94	80-120			
LCS Dup (K000997-BSD1)				Prepared & Analyzed: 07/02/10						
Methyl tert-Butyl Ether	25.5		ug/L	25		102	80-120	8	20	
Matrix Spike (K000997-MS1)		**Source: K006063-04**		Prepared & Analyzed: 07/02/10						
Total Petroleum Hydrocarbons @ Gasoline	1060		ug/L	1000	ND	106	70-130			
Matrix Spike Dup (K000997-MSD1)		**Source: K006063-04**		Prepared & Analyzed: 07/02/10						
Total Petroleum Hydrocarbons @ Gasoline	982		ug/L	1000	ND	98	70-130	7	20	

Approved By

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argon laboratories 2905 Railroad Ave. Ceres, CA 95307 (209)581-9280 Fax (209)581-9282

Geological Technics, Inc. 1101 7th Street Modesto, CA 95354	Project Number: 1409.2 Project Name: Springtown Gas Project Manager:GTI	Work Order No.: K006074

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

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

Chain of Custody

Project #: 1409.2
Client/Project Name: Springtown Gas
Site Address: 909 Bluebell Dr, Livermore, CA
Global ID No.: T0601971617
Sampled By: (print and sign name) Michael Crocker Eichler

Laboratory: Argon
Temp. @ Shipping: C°
Temp. @ Lab Receipt: C°
Purchase Order #: 1409-362281
EDF Report: ☒ Yes ☐ No
Turnaround Time: S = Standard
1 day 2 day 5 day

Date	Time	Field I.D.	Sample I.D.	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	*Method 8260b	Remarks
6/25/10	1040		MW-103	4	W	HCL	X	* TPH-g, BTEX, MTBE,
	1120		MW-101					ETBE, DIPE, TAME, TBA,
	1205		MW-102					1,2-DCA, EDB, Methanol,
	1300		MW-4					Ethanol
								Reporting limits:
								TPH-g = 50 ug/l
								All others = 0.5 ug/l

Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:
Michael Crocker Eichler	6/25/10	1500	Nicola Rae	6/25/10	1530
Nicola Rae	6/28/10	1411	Denise Last	6/28/10	14:11
Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:

Please return cooler/ice chest to Geological Technics Inc.

Rev 2/2009

Appendix C

Groundwater Monitoring Field Notes

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Project No.: 1409.2

Project Location: 909 Bluebell Drive

Livermore, CA

Well I.D.: STMW-1

Date: 8/24/2010

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:16	0.00	31.82	326	8.25	153.6	42.90	Brown, no odor, few sediments
13:18	2.25	21.58	689	6.67	230.7	44.86	Light brown, no odor, few sediments
13:20	4.50	21.76	1022	6.20	245.7	43.39	Light brown, no odor, few sediments
13:23	6.75	20.79	707	6.44	195.7	43.37	Light brown, no odor, few sediments
14:00							Collected samples

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

Pumping Rate: 0.97 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.46
Silt Thickness (ft):	0.54
Initial DTW (ft):	6.40
Water column height (ft):	13.06
One casing volume (gal):	2.22
** Final DTW (ft):	6.89
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes: Recharge was moderately slow.

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ☒ Yes ❑ No

No. of Drums: 3

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: Springtown Gas (Blue Bell)

Project No.: 1409.2

Project Location: 909 Bluebell Drive

Livermore, CA

Well I.D.: STMW-2

Date: 8/24/2010

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
12:51	0.0	30.00	773	7.70	113.2	7.42	Light brown, no odor, very few sediments
12:54	2.0	20.52	1729	6.64	134.2	0.66	Light brown, no odor, very few sediments
12:57	4.0	20.55	1729	6.39	139.3	0.49	Light brown, no odor, very few sediments
13:00	6.0	20.45	1730	6.32	135.9	0.53	Light brown, no odor, very few sediments
13:05							Collected samples

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

Pumping Rate: 0.67 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.95
Silt Thickness (ft):	0.05
Initial DTW (ft):	8.21
Water column height (ft):	11.74
One casing volume (gal):	2.00
** Final DTW (ft):	8.45
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ❑ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Project No.: 1409.2

Project Location: 909 Bluebell Drive

Livermore, CA

Well I.D.: STMW-3

Date: 8/24/2010

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:33	0.00	25.15	313	7.92	220.6	46.46	Light brown, no odor, very few sediments
13:36	1.75	20.19	350	7.80	220.2	44.36	Light brown, no odor, very few sediments
13:38	3.50	20.29	424	6.77	258.7	44.74	Light brown, no odor, very few sediments
13:42	5.25	20.10	384	6.61	255.2	45.92	Light brown, no odor, very few sediments
14:20							Collected samples

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

Pumping Rate: 0.59 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.66
Silt Thickness (ft):	0.34
Initial DTW (ft):	9.36
Water column height (ft):	10.30
One casing volume (gal):	1.75
** Final DTW (ft):	11.70
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes: Recharge was moderately slow.

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ❑ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Project No.: 1409.2

Project Location: 909 Bluebell Drive

Livermore, CA

Well I.D.: MW-4

Date: 8/24/2010

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:05	0.00	31.54	622	7.94	166.6	10.39	Light brown, no odor, few sediments
10:10	1.75	19.30	1354	6.19	158.9	0.96	Light brown, no odor, few sediments
10:15	3.50	19.29	1349	6.07	134.8	0.73	Light brown, no odor, few sediments
10:20	5.25	19.27	1343	6.11	125.7	0.94	Light brown, no odor, few sediments
10:20							Collected samples

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

Pumping Rate: 0.35 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	20.29
Silt Thickness (ft):	-0.29
Initial DTW (ft):	10
Water column height (ft):	10.29
One casing volume (gal):	1.75
** Final DTW (ft):	10.05
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ❑ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: P-1

Project No.: 1409.2

Date: 8/24/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
13:50	0.0	25.48	477	8.12	177.7	34.79	Clear, no odor, no sediments
14:16	7.5	20.17	634	7.47	253.7	43.13	Light brown, no odor, no sediments
	15.0	20.95	632	7.99	206.4	25.20	Light brown, no odor, no sediments
	22.5						
14:30							Collected samples

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

Pumping Rate: _____ - gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.51
Silt Thickness (ft):	0.49
Initial DTW (ft):	8.21
Water column height (ft):	11.30
One casing volume (gal):	1.92
** Final DTW (ft):	16.39
Casing diameter (in):	4"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

_____ # amber liters _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

_____ # polys _____ _____ preserved ____ non-preserved

Notes: Well went dry at 15 gallons purged. Samples were collected before 80% recharge was obtained.

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☐ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: MW-101

Project No.: 1409.2

Date: 8/24/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:40	0.0	26.75	716	8.08	175.2	13.55	Light brown, no odor, a lot of sediments
10:45	5.0	19.91	1164	6.35	219.4	5.21	Light brown, no odor, a lot of sediments
10:49	10.0	19.77	1170	6.41	202.7	6.96	Clear, no odor, no sediments
10:54	15.0	19.80	1170	6.58	178.5	7.36	Clear, no odor, no sediments
11:00							Collected samples

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

Pumping Rate: 1.08 gal/min

Well Constructed TD (ft):	37.00
* Well TD (ft):	36.40
Silt Thickness (ft):	0.60
Initial DTW (ft):	7.21
Water column height (ft):	29.19
One casing volume (gal):	4.96
** Final DTW (ft):	7.24
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ❑ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: MW-102

Project No.: 1409.2

Date: 8/24/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:20	0.00	27.37	1068	7.64	123.6	7.99	Light brown, no odor, very few sediments
11:25	5.25	19.91	1146	6.20	170.7	4.17	Light brown, no odor, very few sediments
11:30	10.50	19.83	1146	6.31	141.0	4.27	Light brown, no odor, very few sediments
11:35	15.75	19.81	1141	6.44	129.3	5.22	Light brown, no odor, very few sediments
11:40							Collected samples

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

Pumping Rate: 1.05 gal/min

Well Constructed TD (ft):	40.00
* Well TD (ft):	39.35
Silt Thickness (ft):	0.65
Initial DTW (ft):	8.82
Water column height (ft):	30.53
One casing volume (gal):	5.19
** Final DTW (ft):	8.83
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☐ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: MW-103

Project No.: 1409.2

Date: 8/24/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:51	0.0	24.40	417	8.20	185.0	51.97	Brown, no odor, a lot of sediments
11:55	4.5	19.36	1449	6.26	236.3	25.42	Brown, no odor, a lot of sediments
11:59	9.0	19.34	1460	6.40	209.3	25.33	Brown, no odor, a lot of sediments
12:03	13.5	19.32	1464	6.56	192.1	23.64	Brown, no odor, a lot of sediments
12:05							Collected samples

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

Pumping Rate: 1.13 gal/min

Well Constructed TD (ft):	35.00
* Well TD (ft):	34.24
Silt Thickness (ft):	0.76
Initial DTW (ft):	8.84
Water column height (ft):	25.40
One casing volume (gal):	4.32
** Final DTW (ft):	8.85
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: E. Nona

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☐ No

No. of Drums:

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

Geological Technics Inc.

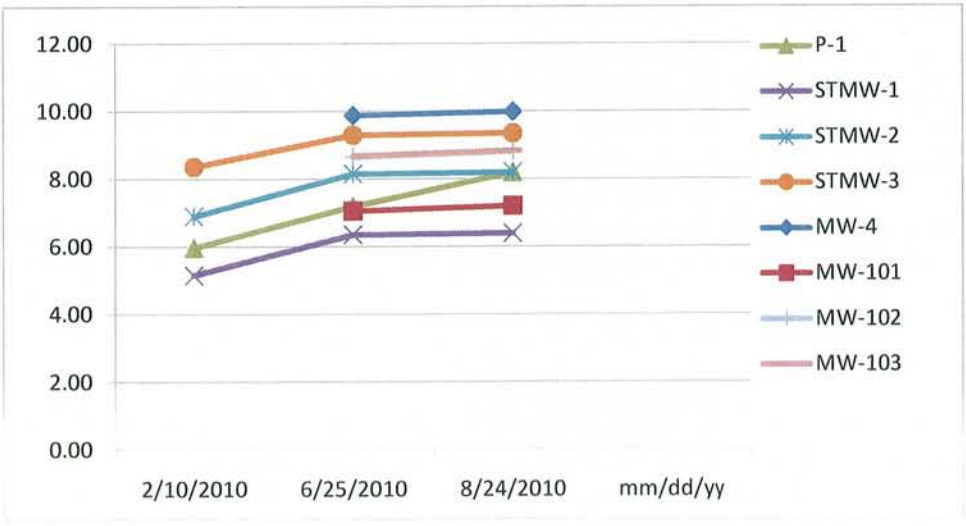
(209) 522-4119 (Office) * (209) 522-4227 (Fax)
1172 Kansas Avenue, Modesto, CA 95351
gti@gtienv.com

SPRINGTOWN GAS (BLUE BELL) 1409.2
909 BLUE BELL DRIVE, LIVERMORE

MONITORING WELL FIELD SUMMARY LOG 2010
DEPTH TO WATER MEASUREMENTS

	QTR. 1	QTR. 2	QTR. 3	QTR. 4	WELL
DATE	2/10/2010	6/25/2010	8/24/2010	mm/dd/yy	**TD**
	(ft)	(ft)	(ft)	(ft)	
LOCATION					
P-1	5.98	7.20	8.21		20.00
STMW-1	5.16	6.36	6.40		20.00
STMW-2	6.91	8.16	8.21		20.00
STMW-3	8.37	9.31	9.36		20.00
MW-4		9.89	10.00		20.00
MW-101		7.06	7.21		37.00
MW-102		8.66	8.82		40.00
MW-103		8.69	8.84		35.00

*TD Total Depth



NOTE:

ALL MEASUREMENTS ARE MADE FROM THE NORTH SIDE AND TOP EDGE OF THE WELL CASING. THE TOP OF CASING WITH A NOTCH OR PERMANENT MARKINGS, WHICH EVER ONE CONDITION IS APPROPRIATE.

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Project No.: 1409.2

Project Location: 909 Bluebell Drive

Livermore, CA

Well I.D.: MW-4

Date: 6/25/2010

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
12:21	0.00	22.47	1484	7.66	173.0	8.60	Clear, no odor, no sediments
12:26	1.75	18.26	1285	7.22	177.5	0.14	Brown, no odor, a lot of sediments
12:31	3.50	18.23	1247	7.20	170.6	0.05	Cloudy, no odor, no sediments
12:35	5.25	18.15	1228	7.20	165.5	0.05	Cloudy, no odor, no sediments
13:00							Collected samples

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

Pumping Rate: 0.38 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	20.16
Silt Thickness (ft):	-0.16
Initial DTW (ft):	9.89
Water column height (ft):	10.27
One casing volume (gal):	6.68
** Final DTW (ft):	9.91
Casing diameter (in):	4"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: M. van den Enden

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☒ Yes ☐ No

No. of Drums: 1

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: Springtown Gas (Blue Bell)

Well I.D.: MW-101

Project No.: 1409.2

Date: 6/25/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:51	0.0	20.02	1047	7.20	272.9	27.37	Brown, no odor, a lot of sediments
10:55	5.0	19.38	1076	7.18	265.2	29.49	Brown, no odor, a lot of sediments
11:01	10.0	19.41	1077	7.19	253.3	30.09	Clear, no odor, few sediments
11:07	15.0	19.43	1077	7.19	248.3	30.27	Clear, no odor, few sediments
11:20							Collected samples

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

Pumping Rate: 0.94 gal/min

Well Constructed TD (ft):	37.00
* Well TD (ft):	36.30
Silt Thickness (ft):	0.70
Initial DTW (ft):	7.06
Water column height (ft):	29.24
One casing volume (gal):	4.97
** Final DTW (ft):	7.12
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: M. van den Enden

Sample Method: Waterra ☒ Bailer ❑ Other ❑

* = measured ** = @ sampling

Purged Water Drummed: ❑ Yes ❑ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: MW-102

Project No.: 1409.2

Date: 6/25/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
11:35	0.00	23.32	1100	7.68	190.0	10.07	Brown, no odor, a lot of sediments
11:39	5.25	19.53	1046	7.20	197.0	6.48	Brown, no odor, a lot of sediments
11:43	10.50	19.56	1030	7.20	185.0	7.17	Brown, no odor, a lot of sediments
11:47	15.75	19.57	1042	7.10	190.3	6.35	Brown, no odor, a lot of sediments
12:05							Collected samples

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

Pumping Rate: 1.31 gal/min

Well Constructed TD (ft):	40.00
* Well TD (ft):	39.25
Silt Thickness (ft):	0.75
Initial DTW (ft):	8.66
Water column height (ft):	30.59
One casing volume (gal):	5.20
** Final DTW (ft):	8.67
Casing diameter (in):	2"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: M. van den Enden

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☐ No

No. of Drums:

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

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: MW-103

Project No.: 1409.2

Date: 6/25/2010

Project Location: 909 Bluebell Drive

Livermore, CA

Samples sent to: Argon

Time	Cumulative Volume Purged (gal)	Temp C°	EC (µS/cm)	pH	ORP (millivolts)	DO (mg/L)	Remarks
10:12	0.0	17.76	937	6.91	268.3	17.63	Brown, no odor, a lot of sediments
10:18	4.5	19.08	1293	7.15	288.6	29.56	Brown, no odor, a lot of sediments
10:23	9.0	19.11	1307	7.13	282.7	29.83	Brown, no odor, a lot of sediments
10:29	13.5	19.12	1316	7.12	277.3	29.46	Clear, no odor, no sediments
10:40							Collected samples

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

Pumping Rate: 0.79 gal/min

Well Constructed TD (ft):	35.00
* Well TD (ft):	34.08
Silt Thickness (ft):	0.92
Initial DTW (ft):	8.69
Water column height (ft):	25.39
One casing volume (gal):	16.50
** Final DTW (ft):	8.70
Casing diameter (in):	4"

Sample Containers used: 4 # VOAs X preserved ____ non-preserved

____ # amber liters ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

____ # polys ____ ____ preserved ____ non-preserved

Notes:

Sampled By: M. van den Enden

Sample Method: Waterra ☒ Bailer ☐ Other ☐

* = measured ** = @ sampling

Purged Water Drummed: ☐ Yes ☐ No

No. of Drums:

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

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SPRINGTOWN GAS (BLUE BELL) 1409.2
909 BLUE BELL DRIVE, LIVERMORE

MONITORING WELL FIELD SUMMARY LOG 2010
DEPTH TO WATER MEASUREMENTS

	QTR. 1	QTR. 2	QTR. 3	QTR. 4	WELL
DATE	2/10/2010	6/25/2010	mm/dd/yy	mm/dd/yy	TD
	(ft)	(ft)	(ft)	(ft)	
LOCATION					
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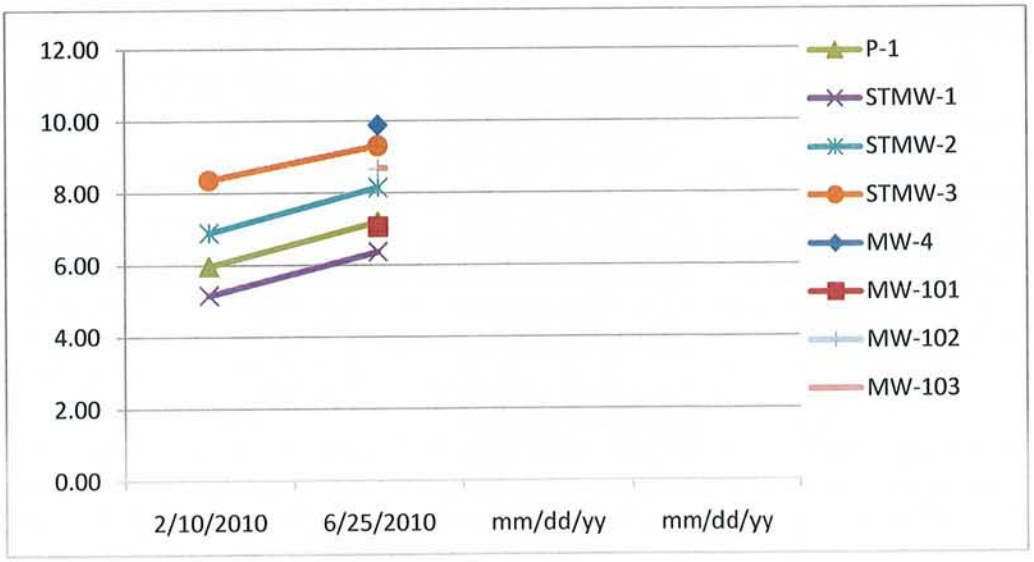
STMW-1	5.16	6.36			20.00
STMW-2	6.91	8.16			20.00
STMW-3	8.37	9.31			20.00
MW-4		9.89			20.00
MW-101		7.06			37.00
MW-102		8.66			40.00
MW-103		8.69			35.00

*TD Total Depth



NOTE:

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