April 17, 2009

Aminifilibadi Masood & Amini Sharbano
909 Blue Bell Drive
Livermore, CA 94551

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 1st Quarter Groundwater Monitoring Report, dated April 17, 2009 that was sent to your office via electronic delivery per Alameda County's guidelines on April 23, 2009.

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
1st Quarter 2009

Springtown Gas
909 Bluebell Drive
Livermore, California

Project No. 1409.2
April 17, 2009

Prepared for:
Masood Filabadi and Sharbano Amini
909 Bluebell Drive
Livermore, California 95353

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

Geological Technics Inc.

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

April 17, 2009

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

Massod Filibadi and Sharbano Amini
Springtown Gas
909 Bluebell Drive
Livermore, California 94551

RE: Report – 1st Quarter 2009 Groundwater Monitoring
Springtown Gas, 909 Bluebell Drive, Livermore, California

Dear Massod Filibadi and Sharbano Amini:

Geological Technics Inc. (GTI) has prepared the following Report for the 1st Quarter 2009 groundwater monitoring event performed on March 10, 2009 at Springtown Gas, 909 Bluebell Drive, Livermore, California. The groundwater data for the event are consistent with historical trends.

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

Respectfully submitted,

Raynold I. Kablanow II, Ph.D.
Vice President

cc: Jerry Wickham – ACEHS
USTCFP

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FIGURES

APPENDICES

Geological Technics Inc.

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REPORT

Groundwater Monitoring
1st Quarter 2009

Springtown Gas
909 Bluebell Drive
Livermore, California

Project No. 1409.2
April 17, 2009

1.0 EXECUTIVE SUMMARY

This report summarizes the results of the 1st Quarter 2009 groundwater monitoring and sampling event that took place on March 10, 2009 at Springtown Gas, 909 Bluebell Drive, Livermore, Alameda County, California (Site).

The average groundwater elevation at the site was 512.81 feet above mean sea level (AMSL) and the groundwater flow was variable for this event. This was the first monitoring event in which well P-1 was incorporated into the contours. The additional data point shows that cores of the MTBE and TBA plumes are centered on well P-1 whereas before they were centered on STMW-1.

The results of analyses conducted on groundwater samples collected from the four monitoring wells on the site (STMW-1, STMW-2, STMW-3 and P-1) did not detect total petroleum hydrocarbons as gasoline (TPH-G) above laboratory reporting limits. 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, or benzene, toluene, ethylbenzene and total xylenes (BTEX) were also not detected in groundwater samples collected from the four monitoring wells. Concentrations of Methyl tertiary Butyl Ether (MtBE) and Tert-Butyl Alcohol (TBA) were detected in groundwater samples collected from the four monitoring wells. The concentrations detected are consistent with historical site data.

Geological Technics Inc. (GTI) submitted a work plan to the Alameda County Environmental Health Services (ACEHS) on July 30, 2008 to prepare a Site Conceptual Model for the Site, and conduct hydrogen peroxide injection and groundwater monitoring/sampling/analyses (*Work Plan, Site Conceptual Model, Hydrogen Peroxide Injection, Groundwater Monitoring/Sampling/Analyses, Springtown Gas, 909 Bluebell Drive, Livermore, California*). The work plan was approved by the ACEHS in correspondence dated August 8, 2008. GTI commenced the field work on September 19, 2008 with the installation of hydrogen peroxide injection pilot test well P1. The 4th Quarter 2008 monitoring/sampling/analyses event was conducted at the Site on December 29, 2008. Hydrogen peroxide injections began on October 2, 2008 using well P1, and existing groundwater monitoring wells STMW-1 and STMW-3, and continued until November 6, 2008. The results of the hydrogen peroxide injection pilot test and the Site Conceptual Model submitted to the ACEHS on December 8, 2008.

In response to the two reports submitted on December 8, 2008 by GTI Alameda County Health Care Services Agency (ACHCSA) requested a corrective action plan for additional site characterization and hydrogen peroxide injection at the site in their correspondence dated December 24, 2008. In response to this request and the ACHCSA's questions in that correspondence GTI proposed via e-mail on January 26, 2009 to prepare a work plan under "Additional Site Characterization and Interim Remedial Action". The proposal to prepare such a work plan prior to preparation of a Draft Corrective Action Plan was approved by ACHCSA in their correspondence via e-mail on January 27, 2009. This work plan was submitted to ACHCSA on February 13, 2009 and was approved in their correspondence dated March 13, 2009. GTI is in the process of preparing the budget to implement the work plan.

2.0 PHYSICAL SETTING

The Site is situated in a mixed commercial-residential land-use area of Livermore, California, and is 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 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).

3.0 GROUNDWATER MONITORING

3.1 Groundwater Elevation and Flow Direction

The average groundwater elevation for the 1st Quarter 2009 event was 512.81 feet AMSL on March 10, 2009, which corresponds to approximately 6.3 feet below ground surface (bgs). This elevation represents an increase of 1.14 feet since the 4th Quarter 2008 monitoring event (December 29, 2008). The groundwater gradient for the 1st Quarter 2009 groundwater monitoring event was variable, which is inconsistent with historical trends.

The gradient direction for the 1st Quarter 2009 groundwater monitoring event is shown on Figure 2 (Groundwater Gradient). The calculated groundwater gradient and flow direction is shown on Figure 3 (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 Groundwater Sampling Procedure

The 1st Quarter 2009 groundwater monitoring event was conducted on March 10, 2009. GTI monitored groundwater elevations and collected groundwater samples for analyses from four

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 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^{o}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.

3.3 Laboratory Analyses

The groundwater samples collected on March 10, 2009, 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 April 13, 2009 for the groundwater elevation data, (confirmation number 6230898201), and the laboratory analytical data (confirmation number 9252112150).

4.0 CONCLUSIONS

The results of the 1st Quarter 2009 groundwater monitoring event indicate the following:

- The average groundwater elevation at the site was 512.81 feet AMSL and the groundwater flow was variable for this event.
- The groundwater gradient and the direction of groundwater flow for the 1st Quarter 2009 monitoring event is inconsistent with the gradients and groundwater flow directions the previous four quarters due to the addition of the new data point P-1, which shows a groundwater high at this point.
- The results of analyses conducted on groundwater samples collected from the four monitoring wells (STMW-1, STMW-2, STMW-3 and P-1) 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 the sites four monitoring wells STMW-1 (29 µg/l), STMW-2 (1.5 µg/l), STMW-3 (3.0 µg/l) and P-1 (240 µg/l). Figure 4 is a contour map showing the distribution of MtBE concentrations for the 1st Quarter 2009 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 the sites four monitoring wells STMW-1 (3,000 µg/l), STMW-2 (96 µg/l), STMW-3 (95 µg/l) and P-1 (9,300 µg/l). Figure 5 is a contour map showing the distribution of TBA concentrations for the 1st Quarter 2009 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, or benzene, toluene, ethylbenzene and total xylenes (BTEX) were not detected in groundwater samples collected from the sites four monitoring wells.
- Concentrations of MtBE and TBA detected in the groundwater samples collected from the sites four monitoring wells STMW-1, STMW-2, STMW-3 and P-1 are significantly higher than those detected during the 4th Quarter of 2008.

5.0 RECOMMENDATIONS

- Maintain the quarterly monitoring schedule.
- Based on the information presented in the Site Conceptual Model submitted to the ACEHS on December 8, 2008, it is likely additional monitoring wells will need to be installed in 2009. These additional monitoring wells will be incorporated into the

existing monitoring well network and the quarterly monitoring/sampling/analyses program for the Site.

- Additional Site Characterization and Interim Remedial Action work plan was approved by ACHCSA in their correspondence dated March 13, 2009. GTI is in the process of preparing the budget to implement the work plan.

6.0 LIMITATIONS

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

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

existing monitoring well network and the quarterly monitoring/sampling/analyses program for the Site.

- Additional Site Characterization and Interim Remedial Action work plan was approved by ACHCSA in their correspondence dated March 13, 2009. GTI is in the process of preparing the budget to implement the work plan.

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

7.0 CERTIFICATION

This report was prepared by:

R. N. Ghanbari

Reza Namdar Ghanbari, Ph.D., EIT, HIT
Project Manager

This report was prepared under the direction of:

R. K. Kablanow

Raynold Kablanow II, Ph.D.
California Professional Geologist #5234
Certified Hydrogeologist #442

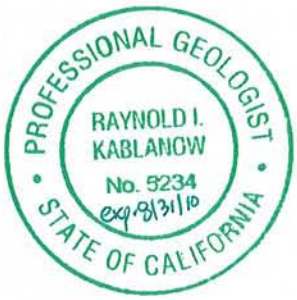
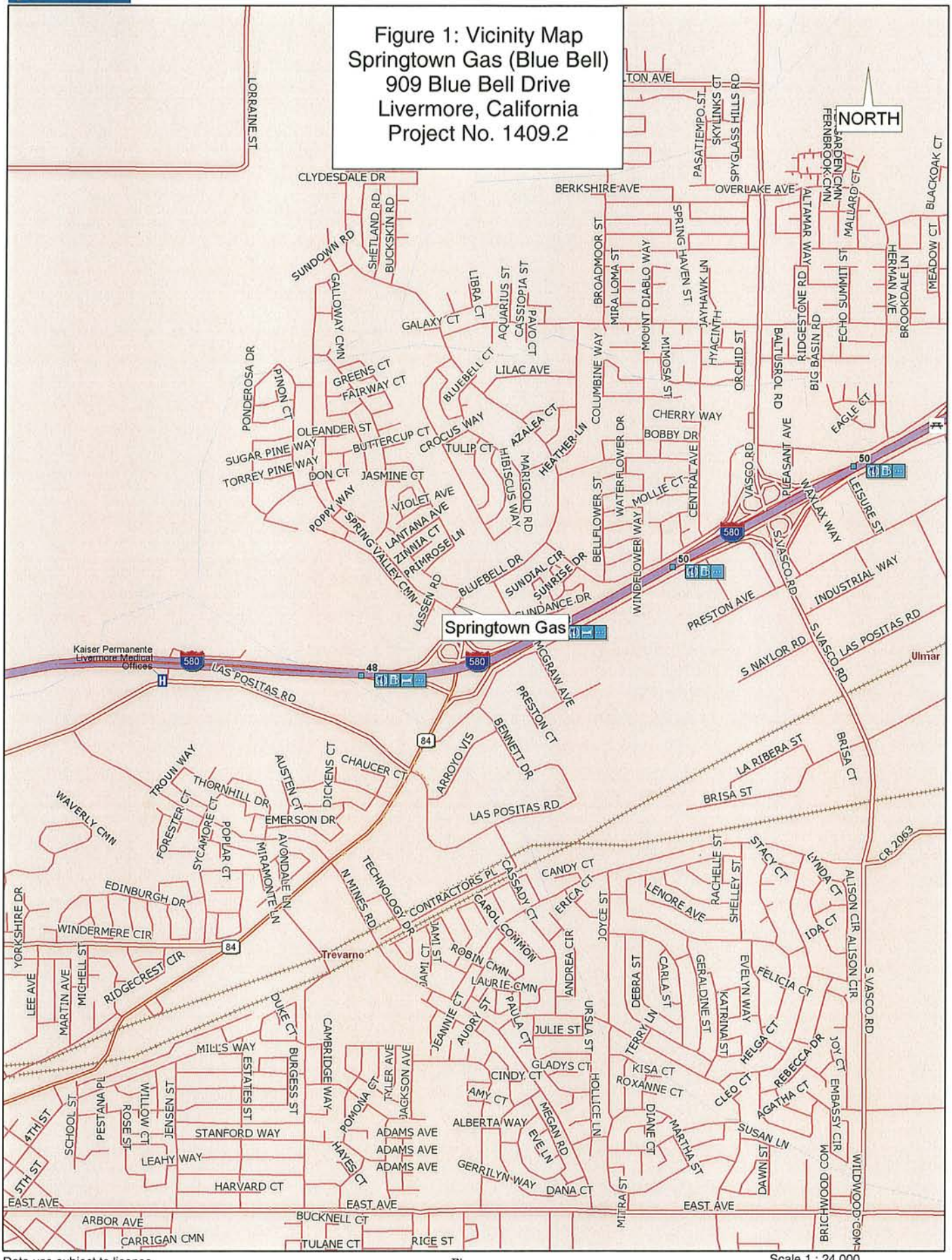


Figure 1: Vicinity Map
Springtown Gas (Blue Bell)
909 Blue Bell Drive
Livermore, California
Project No. 1409.2



Data use subject to license.

www.delorme.com

TN
MN (14.3°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-1

N

0 10 20 30
SCALE 1"=30'

BLUEBELL DRIVE

512.60
512.65
512.70
512.55
512.60
512.70
512.75
512.80
512.85
512.90
512.95
513

STMW-1
STMW-3
512.44
CPT-2
CPT-1
CP1
513.20
R-2
VE-1
EX.PUMP
AREA
STMW-2
512.99
R-1

WATER/AIR
STATION

SPRINGTOWN BLVD

EX.BLDG

TRASH
ENCL

LEGEND

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

By:	EN
Job No:	1409.2 Date: 03/10/09
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

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.	11/20/08	0.004 ft/ft	N60°W
5.	12/29/08	0.004 ft/ft	N64°W
6.	03/10/09	Variable	Variable

N

0 10 20 30

SCALE 1"=30'

Gradient Scale Feet/Feet

0.0000 0.002

BLUEBELL DRIVE

SPRINGTOWN BLVD

1 5 2 4 3

STMW-1
512.60

STMW-3
512.44

STMW-2
512.99

EXISTING
USTs

WATER/AIR
STATION

EX.PUMP
AREA

EX.BLDG

TRASH
ENCL

LEGEND

MONITORING WELL

By:	RG
Job No:	1409.2 Date: 03/10/09
Scale:	1"=30'
File:	1Q09 Rose Springtown

Geological Technics, Inc.

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

Figure 3: Groundwater Gradient Rose Diagram

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA

N

0 10 20 30

SCALE 1"=30'

BLUEBELL DRIVE

SPRINGTOWN BLVD

80

120

160

200

240

40

3

29

1.5

VE-2

VE-1

P1

STMW-1

STMW-2

STMW-3

CPT-1

CPT-2

R-2

R-1

EX.PUMP AREA

EXISTING USTs

WATER/AIR STATION

EX.BLDG

TRASH ENCL

LEGEND

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

By:	EN
Job No:	1409.2 Date: 03/10/09
Scale:	1"=30'
File:	14092 site plan

Geological Technics, Inc.
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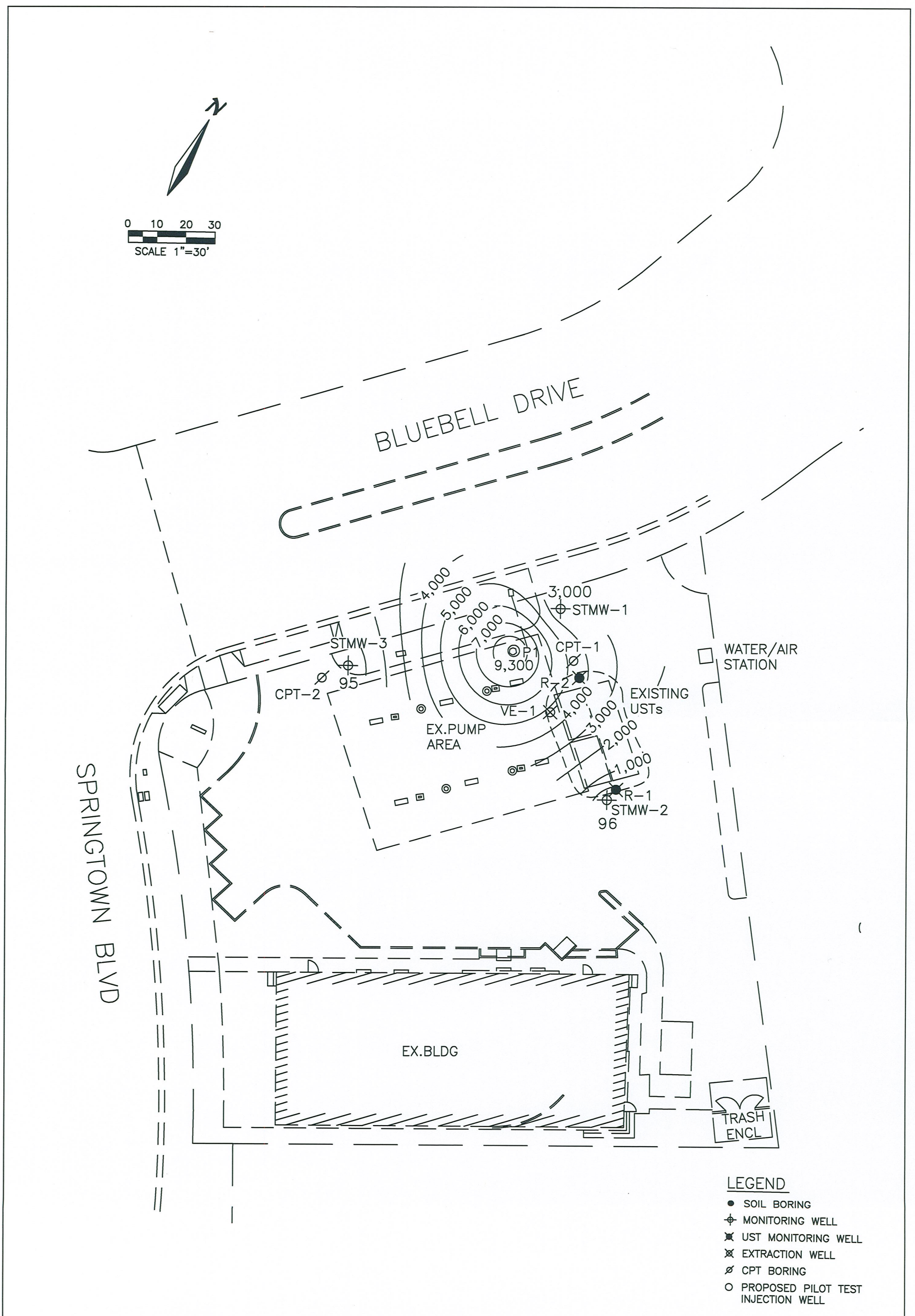
FIGURE 4: MTBE Contour Map

SPRINGTOWN GAS (BLUEBELL)
909 BLUEBELL DRIVE
LIVERMORE, CA



LEGEND

- ● SOIL BORING
- ⊕ MONITORING WELL
- ⊠ UST MONITORING WELL
- ⊠ EXTRACTION WELL
- ⌀ CPT BORING
- ○ PROPOSED PILOT TEST INJECTION WELL

By:	EN
Job No:	1409.2 Date: 03/10/09
Scale:	1"=30'
File:	14092 site plan

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FIGURE 5: 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	Avg GW	GW Gradient	
		GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	GW Elev	DTW	Elev	Slope	Direction
	*top of casing**	517.55		519.59		520.37		518.93			ft/ft	
9/4/2007		510.97	6.58	511.59	8.00	510.85	9.52			511.14	0.006	N66°W
12/10/07		511.29	6.26	511.59	8.00	511.25	9.12			511.38	0.004	N62°W
09/25/08		510.69	6.86	510.9	8.69	510.65	9.72	-	-	510.75	0.003	N54°W
11/20/08		510.81	6.74	511.17	8.42	510.82	9.55	-	-	510.93	0.004	N60°W
12/29/08		511.60	5.95	511.90	7.69	511.50	8.87	-	-	511.67	0.004	N64°W
03/10/09		512.60	4.95	512.99	6.60	512.44	7.93	513.20	5.73	512.81	variable	variable
Historical										511.44	0.004	N61°W

*TOC elevations surveyed on 9/06/07 by Muir Consutling Inc. NAD 83 and NGVD 29
**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
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
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
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

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
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

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	20.00	10	2	PVC	0.02	#2/12	10	20	20	8	8	7	7	0
STMW-2	Active	8/23/2007	20.00	10	2	PVC	0.02	#2/12	10	20	20	8	8	7	7	0
STMW-3	Active	8/23/2007	20.00	10	2	PVC	0.02	#2/12	10	20	20	8	8	7	7	0
P1	Active	9/19/2008	20.00	10	4	PVC	0.02	#3/12	10	20	20	8	8	7	7	0

Appendix B

Laboratory Analytical Data Sheets

argon laboratories

18 March 2009

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

RE: Springtown Gas Project Data

Enclosed are the results for sample(s) received on 03/11/09 13:58 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.
1101 7th Street
Modesto, CA
(209) 522-4119 Fax 522-4227
E-mail: gti@geologicaltechnics.com

Chain of Custody

Project #:	Client/Project Name:
1409.2	Springtown Gas

Site Address: 909 Bluebell Drive, Livermore, CA

Global ID No.: T0601971619?

Sampled By: (print and sign name) Ezaria Niona

Date	Time	Field I.D.	Sample I.D.	No. of Containers	Matrix (Soil, Water, Gas, Other)	Preservation Type	Analysis Requested: TPH-G, BTEX & 9 Oxys (8260B)*
3/10/09	1100		STMW-1	4	W	HCL	
	1030		STMW-2				
	1200		STMW-3				
▼	1210		P-1	▼	▼	▼	▼

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

Remarks

* The 9 oxys include:
MTBE, ETBE, DIPE, TAME, TBA,
1,2-DCA, EDB, Ethanol, Methanol

Reporting Limits
TPH-G → RL = 50 µg/L
BTEX → RL = 0.5 µg/L
9Oxys → RL = 0.5 µg/L

Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:
Ezaria Niona	3/10/09	1500		3/11/09	857
		1357	Marie Guerra	3/11/09	1358

Please return cooler/ice chest to Geological Technics Inc.

Rev. 7/2007

Argon Laboratories Sample Receipt Checklist

Client Name: Geological Technics, Inc. Date & Time Received: 03/11/09 13:58

Project Name: Springtown Gas Client Project Number: 1409.2

Received By: M.G. Matrix: Water ☑ Soil ☐ Sludge ☐

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

Argon Labs Project Number: J903015

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: Ray Kablanow

Work Order No.:
J903015

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
STMW-1	J903015-01	Water	03/10/09 11:00	03/11/09 13:58
STMW-2	J903015-02	Water	03/10/09 10:30	03/11/09 13:58
STMW-3	J903015-03	Water	03/10/09 10:00	03/11/09 13:58
P-1	J903015-04	Water	03/10/09 12:10	03/11/09 13:58

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: Ray Kablanow

Work Order No.:
J903015

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
STMW-1 (J903015-01) Water Sampled: 10-Mar-09 11:00 Received: 11-Mar-09 13:58							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	12-Mar-09	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	**3000**	5.0	"	"	"	"	
Methyl tert-Butyl Ether	**29**	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.:		*104 %*			"	"	
STMW-2 (J903015-02) Water Sampled: 10-Mar-09 10:30 Received: 11-Mar-09 13:58							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	12-Mar-09	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	**96**	5.0	"	"	"	"	
Methyl tert-Butyl Ether	**1.5**	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.:		*101 %*			"	"	

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

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager: Ray Kablanow

Work Order No.:
J903015

TPH-gas & Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
STMW-3 (J903015-03) Water Sampled: 10-Mar-09 10:00 Received: 11-Mar-09 13:58							
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ug/L	1	12-Mar-09	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	**95**	5.0	"	"	"	"	
Methyl tert-Butyl Ether	**3.0**	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.:		*106 %*			"	"	
P-1 (J903015-04) Water Sampled: 10-Mar-09 12:10 Received: 11-Mar-09 13:58							
Total Petroleum Hydrocarbons @ Gasoline	ND	100	ug/L	2	12-Mar-09	EPA 8260B	
Benzene	ND	1.0	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	
Xylenes, total	ND	2.0	"	"	"	"	
Ethyl Benzene	ND	1.0	"	"	"	"	
Methanol	ND	100	"	"	"	"	
Ethanol	ND	10	"	"	"	"	
t-Butanol	**9300**	10	"	"	"	"	
Methyl tert-Butyl Ether	**240**	1.0	"	"	"	"	
Di-Isopropyl Ether	ND	1.0	"	"	"	"	
Ethyl tert-Butyl Ether	ND	1.0	"	"	"	"	
tert-Amyl Methyl Ether	ND	1.0	"	"	"	"	
1,2-Dichloroethane	ND	1.0	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	
Surr. Rec.:		*103 %*			"	"	

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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: Ray Kablanow

Work Order No.: J903015

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 J900477 - EPA 5030B										
Blank (J900477-BLK1)				Prepared & Analyzed: 03/12/09						
Surrogate: Fluorobenzene	*50.0*		*ug/L*	*50*		*100*	*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 (J900477-BS1)				Prepared & Analyzed: 03/12/09						
Methyl tert-Butyl Ether	25.8		ug/L	25		103	80-120			
LCS Dup (J900477-BSD1)				Prepared & Analyzed: 03/12/09						
Methyl tert-Butyl Ether	26.6		ug/L	25		106	80-120	3	20	
Matrix Spike (J900477-MS1)		**Source: J903015-03**		Prepared & Analyzed: 03/12/09						
Benzene	28.1		ug/L	25	ND	112	70-130			
Matrix Spike Dup (J900477-MSD1)		**Source: J903015-03**		Prepared & Analyzed: 03/12/09						
Benzene	24.5		ug/L	25	ND	98	70-130	14	20	

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

Project Number: 1409.2
Project Name: Springtown Gas
Project Manager: Ray Kablanow

Work Order No.:
J903015

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

Appendix C

Groundwater Monitoring Field Notes

Geological Technics, Inc.

Groundwater Monitoring Field Log

Project Name: Springtown Gas (Blue Bell)

Well I.D.: P-1

Project No.: 1409.2

Date: 3/10/2009

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
11:02	0.0	12.81	1816	7.77	319.7	8.35	Clear, mild odor, no sediments
11:19	9.0	16.89	1732	7.58	484.9	5.81	Clear, mild odor, no sediments
11:38	18.0	16.86	1772	7.39	487.3	3.58	Clear, mild odor, no sediments
11:57	27.0	16.81	1797	7.30	473.9	3.03	Clear, mild odor, no sediments
12:10							Collected samples

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

Pumping Rate: 0.49 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.28
Silt Thickness (ft):	0.72
Initial DTW (ft):	5.73
Water column height (ft):	13.55
One casing volume (gal):	8.81
** Final DTW (ft):	6.73
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: Purged water had a slight odor of Hydrogen Peroxide and solvent.

Sampled By: E. Nona

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.: STMW-1

Project No.: 1409.2

Date: 3/10/2009

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
10:38	0.0	13.97	1708	7.37	447.5	28.72	Clear, no odor, very few sediments
10:43	2.5	16.53	1686	7.28	461.0	27.57	Clear, no odor, very few sediments
10:47	5.0	16.37	1809	7.26	430.3	23.82	Clear, no odor, very few sediments
10:52	7.5	16.14	1861	7.23	401.3	20.56	Clear, no odor, very few sediments
11:00							Collected samples

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

Pumping Rate: 0.54 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	18.73
Silt Thickness (ft):	1.27
Initial DTW (ft):	4.95
Water column height (ft):	13.78
One casing volume (gal):	8.96
** Final DTW (ft):	5.13
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: Purged water had a slight odor of Hydrogen Peroxide & solvent.

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.: STMW-2

Project No.: 1409.2

Date: 3/10/2009

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
10:10	0.00	11.63	1651	7.75	383.4	4.70	Clear, no odor, no sediments
10:14	2.25	17.90	1591	7.33	439.6	0.51	Brown, no odor, few sediments
10:18	4.50	17.94	1594	7.31	405.7	0.51	Clear, no odor, no sediments
10:23	6.75	17.94	1600	7.31	372.9	0.67	Clear, no odor, no sediments
10:30							Collected samples

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

Pumping Rate: 1.93 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.56
Silt Thickness (ft):	0.44
Initial DTW (ft):	6.6
Water column height (ft):	12.96
One casing volume (gal):	8.42
** Final DTW (ft):	6.63
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.: STMW-3

Project No.: 1409.2

Date: 3/10/2009

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
9:37	0.00	11.79	1399	7.47	138.8	7.68	Clear, no odor, no sediments
9:41	2.25	17.19	1530	7.22	500.1	6.17	Clear, no odor, no sediments
9:46	4.50	17.18	1528	7.15	512.5	6.14	Clear, no odor, no sediments
9:52	6.75	17.29	1555	7.10	509.3	7.17	Clear, no odor, no sediments
10:00							Collected samples

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

Pumping Rate: 0.45 gal/min

Well Constructed TD (ft):	20.00
* Well TD (ft):	19.82
Silt Thickness (ft):	0.18
Initial DTW (ft):	7.93
Water column height (ft):	11.89
One casing volume (gal):	7.73
** Final DTW (ft):	8.48
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.

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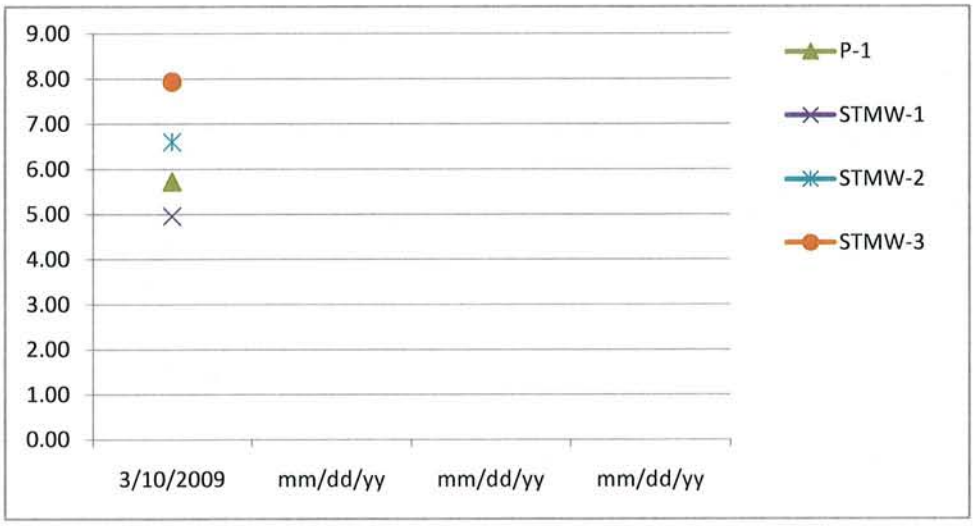
SPRINGTOWN GAS (BLUE BELL) 1409.2
909 BLUE BELL DRIVE, LIVERMORE

MONITORING WELL FIELD SUMMARY LOG 2009
DEPTH TO WATER MEASUREMENTS

	QTR. 1	QTR. 2	QTR. 3	QTR. 4	WELL
DATE	3/10/2009	mm/dd/yy	mm/dd/yy	mm/dd/yy	**TD**
	(ft)	(ft)	(ft)	(ft)	
LOCATION					
P-1	5.73				20.00
STMW-1	4.95				20.00
STMW-2	6.60				20.00
STMW-3	7.93				20.00

*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.