



February 5, 2010

REMEDICATION #3459

Mr. Mike Cox
Environmental Coordinator
Noble Energy, Inc.
804 Grand Avenue
Platteville, Colorado 80651

**RE: Fourth Quarter 2009 Remediation and Monitoring Report
Frick 18 – 2 & 8 Natural Gas Wellhead Site
Weld County, Colorado**

Dear Mr. Cox:

LT Environmental, Inc. (LTE) was retained by Noble Energy, Inc. (Noble) to conduct corrective actions at the Frick 18 – 2 & 8 natural gas wellhead site (Site) located approximately 0.4 miles north of the intersection of Weld County Road (WCR) 44 and WCR 51 in Weld County, Colorado (Figure 1). LTE, on behalf of Noble, has completed remediation system design, installation, startup, and operation and maintenance (O&M) of the air sparging/soil vapor extraction (AS/SVE) system. LTE is continuing to conduct groundwater monitoring at the Site to evaluate the performance of the remediation system in mitigating groundwater impact. This correspondence is provided as the Fourth Quarter 2009 Remediation and Monitoring Report, and summarizes activities conducted at the Site from October 1, 2009 through January 7, 2010. Activities conducted during the reporting period included O&M of the remediation system, remediation system expansion, and one quarterly groundwater monitoring event.

Remediation System Description

The AS system is designed to introduce ambient air into the subsurface water column for dissolved hydrocarbon volatilization and to promote aerobic microbial decomposition of petroleum constituents. The SVE system is designed to volatilize petroleum constituents adsorbed onto soil particles and to remove petroleum vapors released from the groundwater by the AS process. AS and SVE wells are connected to a remediation equipment trailer housing the equipment for the AS/SVE system. The remediation system installation was described in the previously submitted report, *Remediation System Installation and Startup, and Pre-System Groundwater Sampling Results*, dated September 11, 2008. The remediation system initiated operation at the Site on August 8, 2008. The system layout is illustrated on Figures 2 and 3.



Remediation System Expansion

Data from historical groundwater sampling events indicated that once remediation was initiated groundwater improvements did not occur as aggressively in some areas of the site as others. To enhance remediation efforts in these areas the remediation program was expanded through the installation of five new AS wells (AS27 through AS31).

Drilling activities for installation of the five new AS wells were conducted on November 19, 2009 and November 20, 2009. The new AS wells were installed to remediate impacted soil and groundwater located in the vicinity of the tank battery and monitoring well SB10R. Drilling was conducted by Alpine Field Services, Inc. with oversight by LTE. The AS wells were drilled to total depths ranging from 15 feet below ground surface (bgs) to 20 feet bgs. The wells were piped into the existing system by LTE on November 23, 2009. Well completion information for the AS wells is included as Attachment 1. The system layout, including new AS well locations, is shown on Figures 2 and 3.

Remediation System O&M

O&M activities conducted in the reporting period included:

- Completion of routine, weekly, monthly, and quarterly O&M checks to monitor and adjust system performance;
- Repair of the generator oil return line;
- Generator battery replacement under warranty;
- Generator alternator replacement;
- Generator maintenance, which included changing the oil and oil filters; and
- AS wellhead flow adjustments to enhance remedial efforts in remaining impacted areas.

The remediation program for this Site includes continued intermittent operation of the AS/SVE system. The system runs intermittently, and on a pulsing/cycling schedule, to maximize remediation efforts and minimize preferential air pathways. Operation of the remediation system is conducted continuously for an approximate three month period, followed by a three month static evaluation with the remediation system inactive. This program will allow for focused removal of hydrocarbon impact along with static evaluations to determine which areas of the Site may require continued operational adjustments. Since additional AS wells were installed in November 2009, the cycling schedule was adjusted to increase the operational time to six months which will then be followed by a three month static evaluation. The SVE system was not utilized during the operating period due to high water table conditions, excess water recovery,



and potential for freezing in the above ground recovery lines. The generator timer continues to allow system operation during daylight hours only, per the landowner's request.

Groundwater Sampling Procedures

On December 29, 2009, nine groundwater monitoring wells were sampled to determine the current plume extent following three months of system operation. Monitoring well SB27 was sampled on January 7, 2010 because snow and ice surface cover limited access during the December 29, 2009 event. Prior to sampling, depth to groundwater in each monitoring well was measured and recorded for calculating purge volumes (Table 1). Each well was purged of three casing volumes and then groundwater samples were collected from the well points by advancing disposable 3/16-inch diameter polyethylene tubing below the water table inside 1-inch diameter polyvinyl chloride (PVC) casing. A peristaltic pump was utilized to bring the groundwater to the surface for collection with laboratory prepared sample bottles. Groundwater samples were collected in 40-milliliter vials, placed on ice, and delivered under chain-of-custody (COC) protocol to Origins Laboratory located in Denver, Colorado. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B.

Hydrogeology

During the December 29, 2009 sampling event, the depth to static groundwater ranged from 0 feet below top of casing (btoc) in SB02R to 3.08 feet btoc in SB15 (Table 1). The groundwater was elevated in SB02R due to AS system influence. The groundwater flow direction was to the east with an average hydraulic gradient of approximately 0.002 feet per foot (ft/ft).

Groundwater Analytical Results

The Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC) has established Regulation 41 - The Basic Standards for Groundwater (Regulation 41) for BTEX of 5.0 micrograms per liter (ug/L), 560 ug/L, 700 ug/L, and 1,400 ug/L, respectively. Table 2 summarizes groundwater analytical results for samples collected during all monitoring events. The laboratory analytical reports, laboratory quality assurance/quality control data, and COC documentation are presented in Attachment 2.

Nine groundwater samples were collected and submitted to Origins Laboratory for BTEX analysis during the August 31, 2009 sampling event (MW01, MW02, SB02R, SB03, SB07, SB09, SB10R, SB15, and SB16). A groundwater sample from SB27 was collected and submitted to Origins Laboratory for BTEX analysis on January 7, 2010. Groundwater analytical results indicate that benzene was detected above the Regulation 41 standard for benzene in monitoring wells MW01 and SB10R at concentrations of 919 ug/L and 12.1 ug/L, respectively. BTEX compounds were not detected above the Regulation 41 standards in the remaining samples. Groundwater analytical results for the December 2009 and January 2010 sampling event are summarized in Table 2 and illustrated on Figure 4.



Summary and Conclusions

Since system startup, benzene concentrations in monitoring wells MW02, SB02R, SB07, SB09, SB16, SB18/18R, SB20, and SB27 have successfully decreased into compliance with the Regulation 41 standard. These data indicate that cleanup objectives have been attained for these areas, representing successful remediation of 95% of the original 2005 plume extent, as seen on Figure 5. In addition, BTEX concentrations are exhibiting a stable and decreasing trend site-wide. AS wells installed in November 2009 have allowed for a more focused and efficient remedial effort onsite. Remaining areas of the Site exhibiting benzene groundwater concentrations above cleanup goals are in the vicinity of MW01 and SB10R. In order to achieve cleanup goals, remediation system operation efforts will be concentrated in these areas of the Site.

The next groundwater sampling event will be conducted in March 2010. The remediation system will be active at the Site until March 2010, followed by a three month static evaluation. Groundwater monitoring will continue to be conducted at the Site on a quarterly basis until site closure status is received from the Colorado Oil and Gas Conservation Commission (COGCC).

LTE appreciates the opportunity to provide environmental services to Noble. Please call us at 303-433-9788 if you have any questions or comments regarding this report.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "Rob Rebel".

Rob Rebel, P.E.
Project Manager

A handwritten signature in black ink, appearing to read "Steve Kahn".

Steve Kahn, P.E.
Senior Engineer

Attachments

Figure 1: Site Map

Figure 2: AS System Layout

Figure 3: SVE System Layout

Figure 4: Groundwater Analytical Results – December 29, 2009 and January 7, 2010

Figure 5: Groundwater Analytical Summary

Table 1: Groundwater Elevation Summary

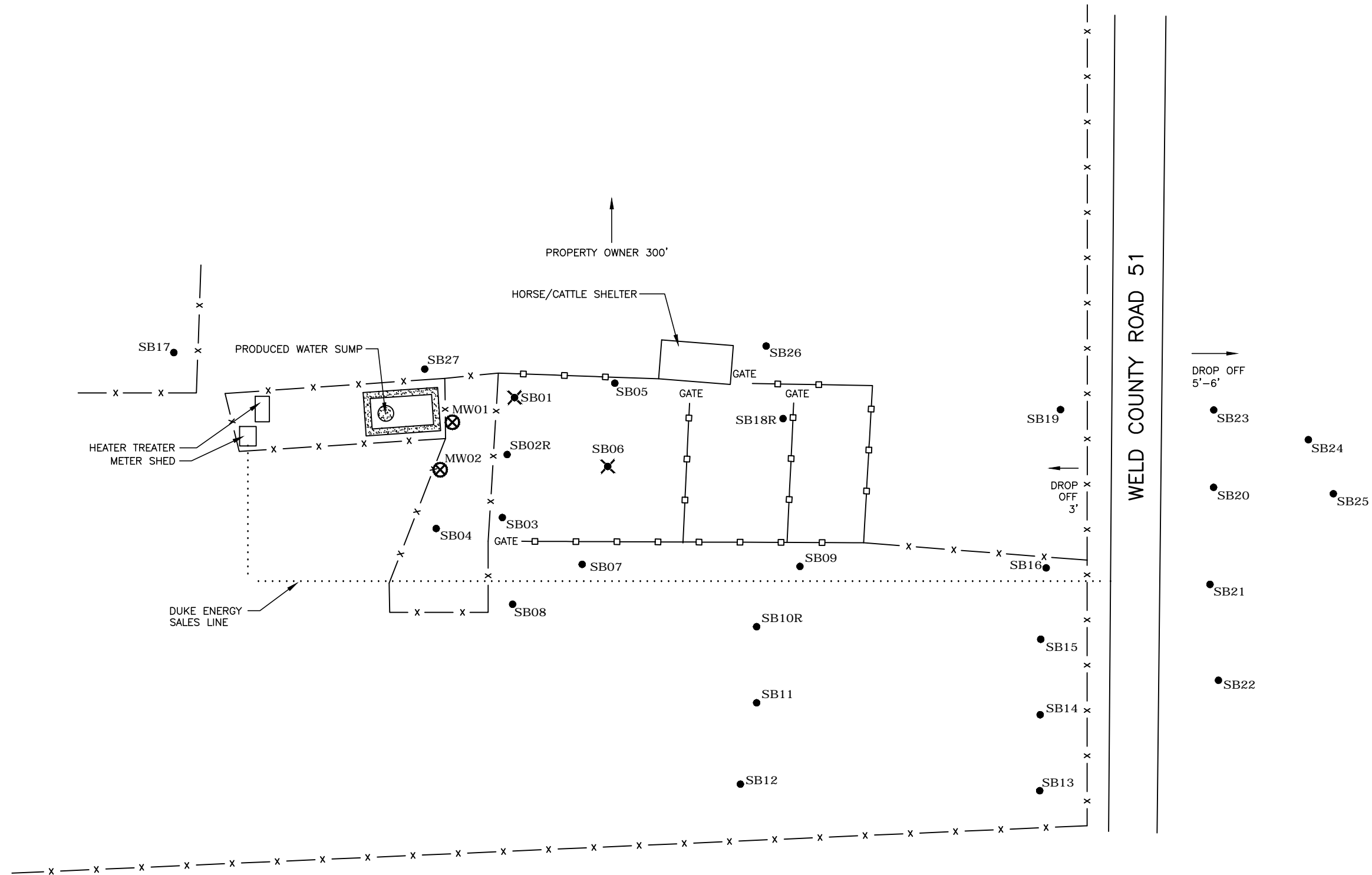
Table 2: Groundwater Analytical Results – Volatile Organic Compounds

Attachment 1: Air Sparging Well Completion Logs





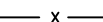

Attachment 2: Laboratory Analytical Reports

FIGURES





LEGEND

- MW01  MONITORING WELL LOCATION
- SB03  SOIL BORING/TEMPORARY MONITORING WELL LOCATION
- SB01  DESTROYED SOIL BORING/TEMPORARY MONITORING WELL LOCATION
-  METAL PIPE FENCE
-  BARBED WIRE FENCE
-  BERM

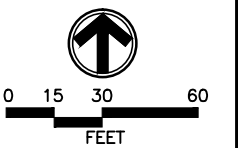
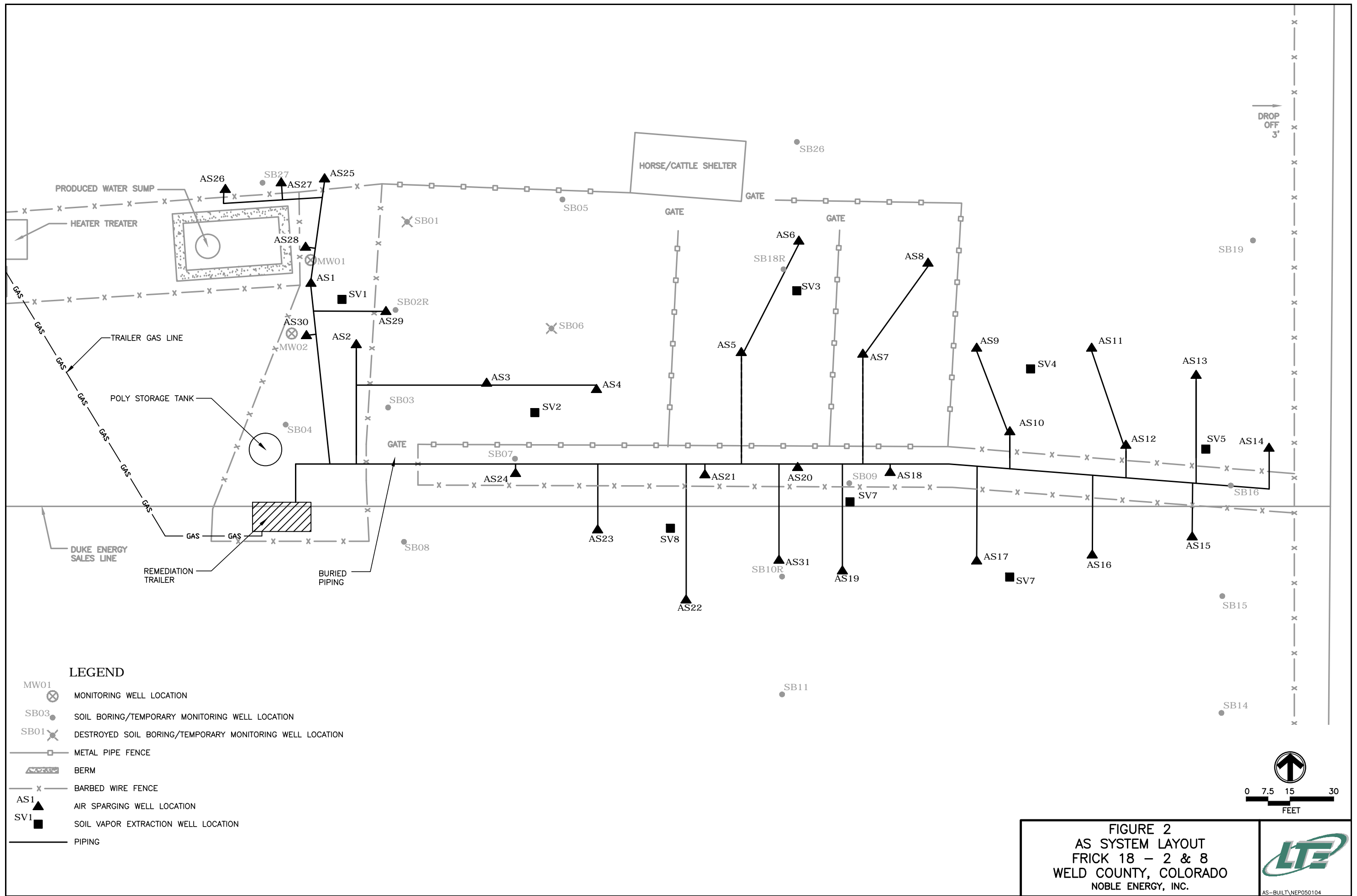
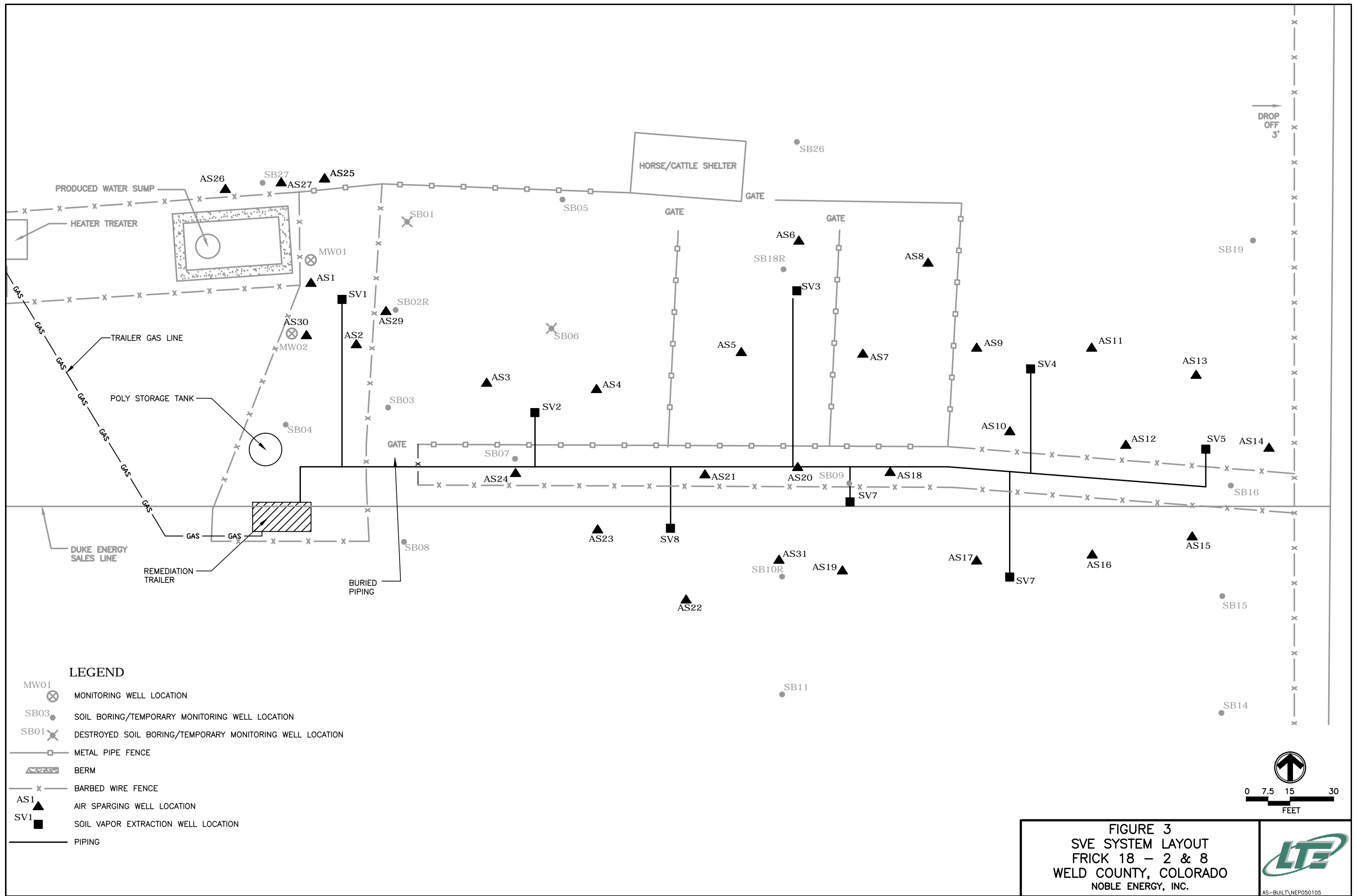
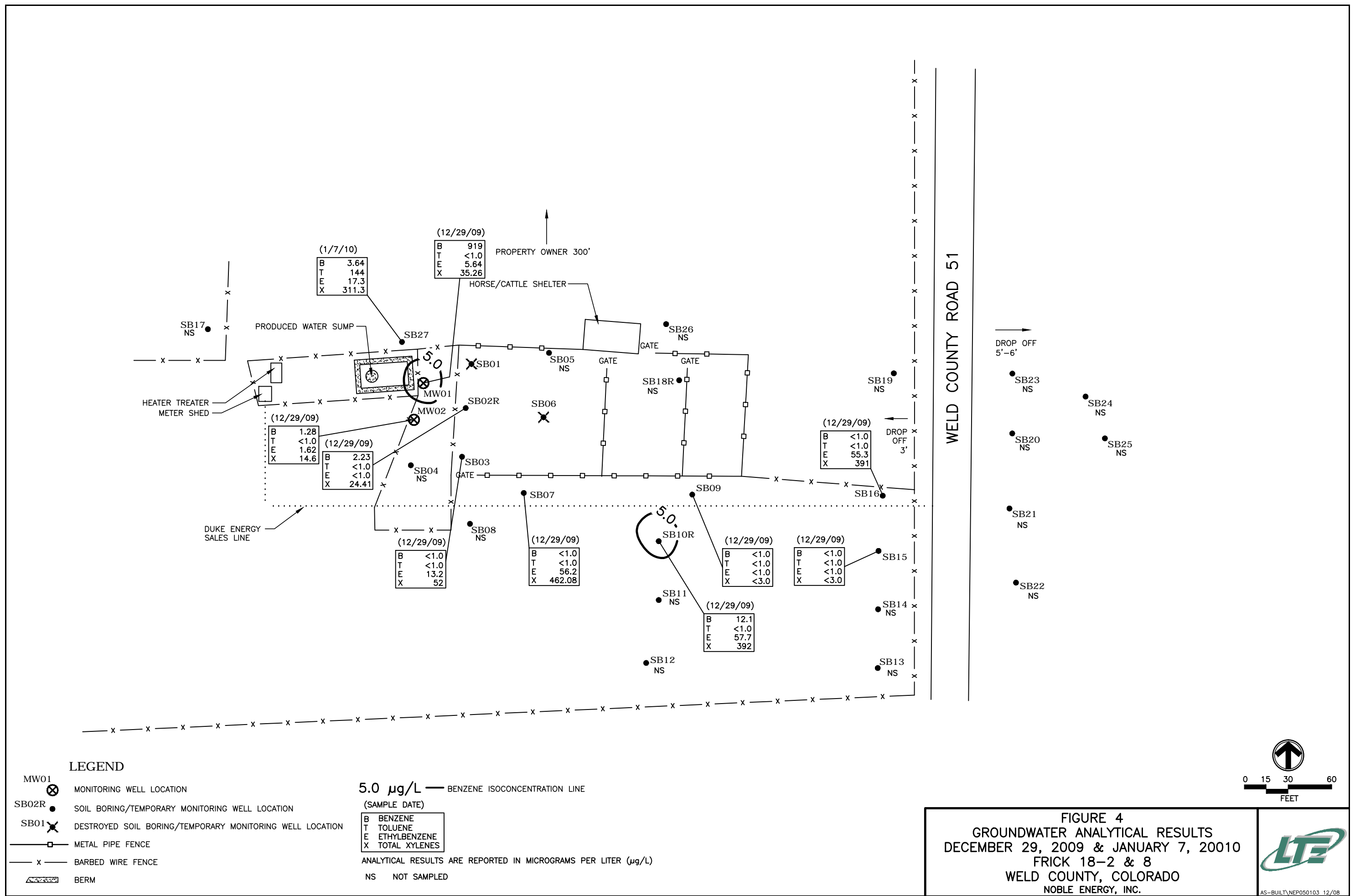


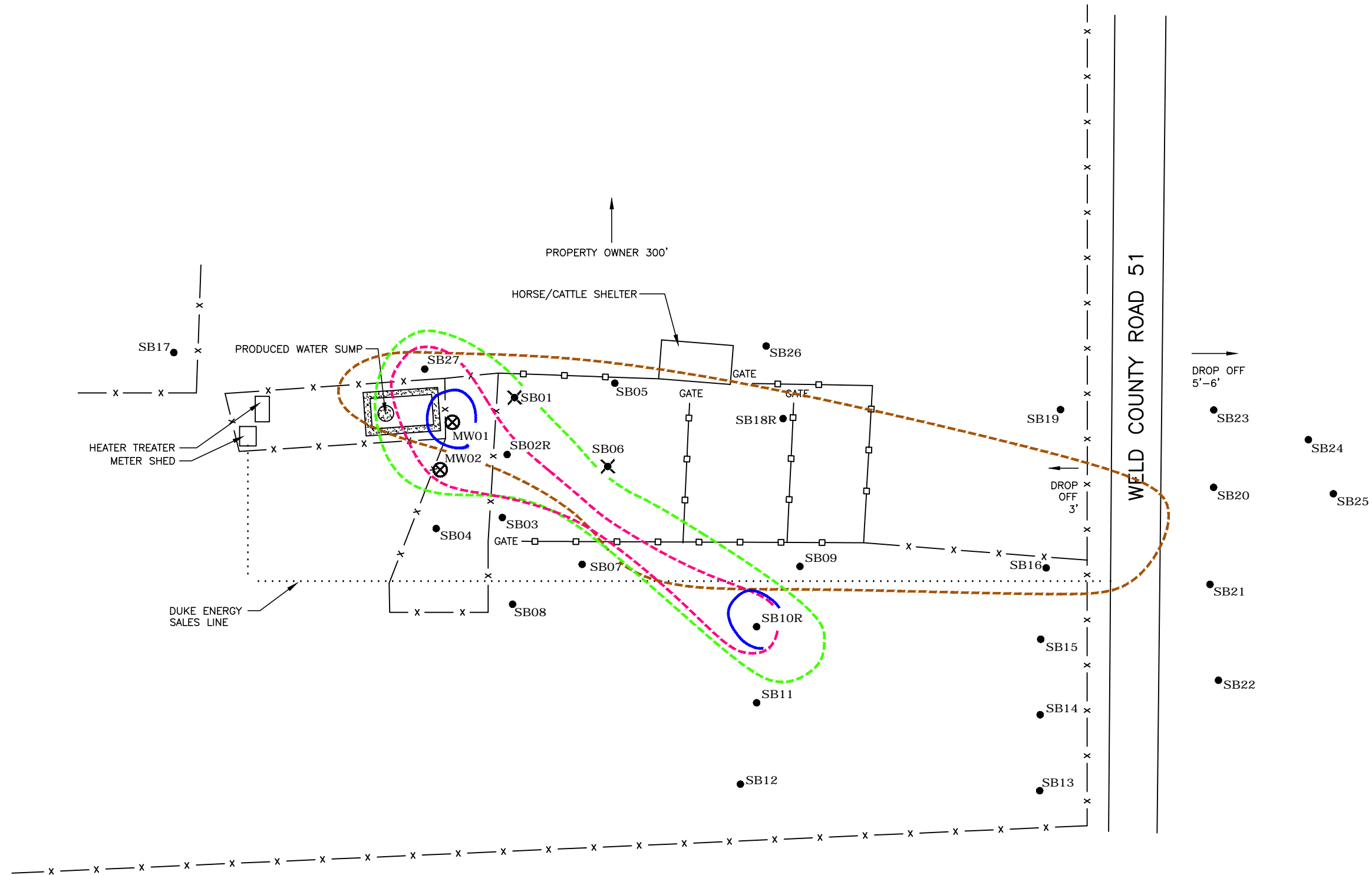
FIGURE 1
SITE MAP
FRICK 18-2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.






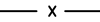














LEGEND

- MW01  MONITORING WELL LOCATION
- SB02R  SOIL BORING/TEMPORARY MONITORING WELL LOCATION
- SB01  DESTROYED SOIL BORING/TEMPORARY MONITORING WELL LOCATION
-  BARBED WIRE FENCE
-  METAL PIPE FENCE
-  BERM

-  5.0 MICROGRAMS PER LITER ($\mu\text{g/L}$) BENZENE ISOCONCENTRATION LINE (DECEMBER 2009 & JANUARY 2010)
-  5.0 $\mu\text{g/L}$ BENZENE ISOCONCENTRATION LINE (AUGUST 2009)
-  5.0 $\mu\text{g/L}$ BENZENE ISOCONCENTRATION LINE (MAY 2009)
-  5.0 $\mu\text{g/L}$ BENZENE ISOCONCENTRATION LINE (NOVEMBER 2008)

NOTE:
REMEDICATION SYSTEM BEGAN OPERATION ON
AUGUST 8, 2008

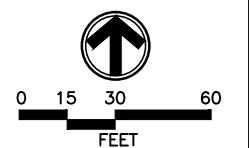


FIGURE 5
GROUNDWATER ANALYTICAL SUMMARY
FRICK 18-2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.



TABLES

TABLE 1
GROUNDWATER ELEVATION SUMMARY

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Well ID	Date	Total Depth (ft)	Depth to Water (ft)	TOC Elevation (ft)	Groundwater Elevation (relative ft)
MW01	10/11/05	17.78	8.80	96.33	87.53
	01/20/06	17.78	8.23	96.33	88.10
	03/28/07	17.78	7.63	96.33	88.70
	08/05/08	17.78	6.27	96.33	90.06
	11/14/08	17.78	4.32	96.33	92.01
	11/24/08	17.78	3.49	96.33	92.84
	02/24/09	17.78	3.31	96.33	93.02
	05/26/09	17.78	0.70	96.33	95.63
	08/31/09	17.78	3.75	96.33	92.58
	12/29/09	17.78	2.22	96.33	94.11
MW02	10/11/05	18.39	9.68	96.83	87.15
	01/20/06	18.39	8.78	96.83	88.05
	03/28/07	18.39	7.95	96.83	88.88
	08/05/08	18.39	6.51	96.83	90.32
	11/24/08	18.39	3.78	96.83	93.05
	02/24/09	18.39	3.31	96.83	93.52
	05/26/09	18.34	1.00	96.83	95.83
	08/31/09	18.34	4.10	96.83	92.73
	12/29/09	18.34	1.84	96.83	94.99
SB01	10/11/05	14.98	8.72	95.82	87.10
SB02	10/11/05	12.68	9.24	96.06	86.82
	01/20/06	12.68	8.35	96.06	87.71
	03/28/07	12.68	7.62	96.06	88.44
SB02R	02/24/09	12.72	3.15	NM	NM
	05/26/09	12.72	0.75	NM	NM
	08/31/09	12.72	4.06	NM	NM
	12/29/09	12.72	0.00	NM	NM
SB03	10/11/05	15.01	9.50	96.06	86.56
	01/20/06	15.01	8.45	96.06	87.61
	03/28/07	15.01	7.64	96.06	88.42
	08/05/08	15.01	6.34	96.06	89.72
	11/24/08	15.01	3.44	96.06	92.62
	02/24/09	15.01	3.05	96.06	93.01
	05/26/09	15.01	0.85	96.06	95.21
	08/31/09	15.01	3.58	96.06	92.48
	12/29/09	15.01	1.90	96.06	94.16
SB04	10/11/05	12.86	10.04	97.26	87.22
SB05	10/11/05	12.09	8.18	94.48	86.30
SB06	10/11/05	12.27	8.56	94.71	86.15
	01/20/06	12.27	7.60	94.71	87.11
	03/28/07	12.27	6.94	94.71	87.77



TABLE 1 (CONTINUED)
GROUNDWATER ELEVATION SUMMARY

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Well ID	Date	Total Depth (ft)	Depth to Water (ft)	TOC Elevation (ft)	Groundwater Elevation (relative ft)
SB07	10/11/05	12.30	8.86	94.98	86.12
	01/20/06	12.30	7.85	94.98	87.13
	03/28/07	12.30	7.18	94.98	87.80
	02/24/09	12.30	2.63	94.98	92.35
	05/26/09	12.30	0.55	94.98	94.43
	08/31/09	12.30	3.07	94.98	91.91
	12/29/09	12.30	1.50	94.98	93.48
SB08	01/20/06	12.18	7.79	NM	NM
SB09	05/28/09	15.04	0.10	NM	NM
	08/31/09	15.04	2.78	NM	NM
	12/29/09	15.04	1.20	NM	NM
SB10R	05/28/09	13.68	0.30	NM	NM
	08/31/09	13.68	1.63	NM	NM
	12/29/09	13.68	0.82	NM	NM
SB11	10/11/05	11.95	7.80	92.87	85.07
	01/20/06	11.95	6.66	92.87	86.21
	03/28/07	11.95	6.06	92.87	86.81
	08/05/08	11.95	4.75	92.87	88.12
	11/24/08	11.95	1.89	92.87	90.98
SB12	10/11/05	11.68	8.23	93.04	84.81
	01/20/06	11.68	6.86	93.04	86.18
	03/28/07	11.68	6.13	93.04	86.91
SB13	10/11/05	11.79	10.23	92.27	82.04
	01/20/06	11.79	9.35	92.27	82.92
	03/28/07	11.79	8.59	92.27	83.86
SB14	10/11/05	12.11	9.95	92.63	82.68
	01/20/06	12.11	9.01	92.63	83.62
	03/28/07	12.11	8.83	92.63	83.80
	08/05/08	12.11	6.07	92.63	86.56
SB15	10/11/05	12.01	10.05	92.80	82.75
	01/20/06	12.01	9.11	92.80	83.69
	03/28/07	12.01	8.95	92.80	83.85
	08/05/08	12.01	7.51	92.80	85.29
	11/24/08	12.01	5.29	92.80	87.51
	02/24/09	12.01	4.41	92.80	88.39
	05/26/09	12.01	0.90	92.80	91.90
	08/31/09	12.01	4.50	92.80	88.30
	12/29/09	12.01	3.08	92.80	89.72



TABLE 1 (CONTINUED)
GROUNDWATER ELEVATION SUMMARY

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Well ID	Date	Total Depth (ft)	Depth to Water (ft)	TOC Elevation (ft)	Groundwater Elevation (relative ft)
SB16	10/11/05	12.06	9.27	92.21	82.94
	01/20/06	12.06	8.38	92.21	83.83
	03/28/07	12.06	8.26	92.21	83.95
	08/05/08	12.06	6.96	92.21	85.25
	11/14/08	12.06	5.62	92.21	86.59
	11/24/08	12.06	4.81	92.21	87.40
	02/24/09	12.06	3.92	92.21	88.29
	08/31/09	12.06	4.00	92.21	88.21
	12/29/09	12.06	2.49	92.21	89.72
SB17	10/11/05	14.56	11.02	101.25	90.23
SB18	10/11/05	12.00	8.66	93.63	84.97
	01/20/06	12.00	7.72	93.63	85.91
SB18R	02/24/09	12.86	3.22	NM	NM
	05/28/09	12.86	0.74	NM	NM
SB19	10/11/05	12.08	9.23	92.37	83.14
	01/20/06	12.08	8.39	92.37	83.98
	03/28/07	12.08	8.27	92.37	84.10
SB20	10/11/05	13.27	11.54	93.31	81.77
	01/20/06	13.27	8.65	93.31	84.66
	03/28/07	13.27	10.37	93.31	82.94
	08/05/08	13.27	9.38	93.31	83.93
	11/24/08	13.27	7.18	93.31	86.13
	02/24/09	13.30	6.26	93.31	87.05
	05/26/09	13.30	3.00	93.31	90.31
SB21	10/11/05	13.90	9.91	91.36	81.45
	01/20/06	13.90	7.89	91.36	83.47
	03/28/07	13.90	9.60	91.36	81.76
	11/24/08	13.90	5.13	91.36	86.23
SB22	10/11/05	13.93	9.31	90.57	81.26
SB23	10/11/05	13.70	8.40	89.98	81.58
	01/20/06	13.70	7.15	89.98	82.83
	03/28/07	13.70	8.88	89.98	81.10
	11/24/08	13.70	4.19	89.98	85.79
SB24	10/11/05	13.69	8.00	88.90	80.90
	01/20/06	13.69	6.65	88.90	82.25
	03/28/07	13.69	8.58	88.90	80.32
	11/24/08	13.69	3.72	88.90	85.18



TABLE 1 (CONTINUED)
GROUNDWATER ELEVATION SUMMARY

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Well ID	Date	Total Depth (ft)	Depth to Water (ft)	TOC Elevation (ft)	Groundwater Elevation (relative ft)
SB25	10/11/05	13.77	7.90	88.48	80.58
	11/24/08	13.77	3.58	89.48	85.90
SB26	10/11/05	11.94	8.91	93.85	84.94
SB27	02/24/09	13.35	3.81	NM	NM
	05/26/09	13.35	1.53	NM	NM
	08/31/09	13.35	4.88	NM	NM
	01/07/10	13.35	3.20	NM	NM

Notes:

ft - feet

NM - Not measured

All depths measured from the north side of the top of the casing (TOC).



TABLE 2
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC

Sample ID	Sample Date	Volatile Organic Compounds (ug/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW01	10/11/2005	1,200	4.2	150	562
	1/20/2006	1,700	<20	39	337
	3/28/2007	1,200	<20.0	27	260
	8/5/2008	7,770	111	97.6	812.2
	11/14/2008	9,450	129	272	2,858
	11/24/2008	9,210	56.8	50.1	2,573
	2/24/2009	6,130	23.9	65.7	571.7
	5/26/2009	9,680	56.1	633	1,027
	8/31/2009	7,000	2.53	163	763.84
	12/29/2009	919	<1.0	5.64	35.26
MW02	10/11/2005	390	<1.0	15	285
	1/20/2006	<1.0	<1.0	<1.0	<3.0
	3/28/2007	1.5	<2.0	<2.0	7.2
	8/5/2008	53.8	<1.0	66.7	381.7
	11/24/2008	2.15	<1.0	<1.0	8.1
	2/24/2009	88.5	<1.0	100	655.6
	5/26/2009	65	<1.0	171	1,736.7
	8/31/2009	6.81	<1.0	<1.0	2.72
	12/29/2009	1.28	<1.0	1.62	14.6
SB01	6/16/2005	< 1.0	< 1.0	< 1.0	<3.0
SB02	6/16/2005	48	39.8	508	7,160
	10/11/2005	3.6	<1.0	170	7,078
	1/20/2006	<1.0	<1.0	190	586
	3/28/2007	1.2	<2.0	49	38
	8/5/2008	Destroyed			
SB02R	2/24/2009	30.4	1.91	48.9	266.54
	5/26/2009	32.1	<1.0	6.7	48.5
	8/31/2009	183	<1.0	383	3,055
	12/29/2009	2.23	<1.0	<1.0	24.41
SB03	6/16/2005	630	892	182	2,070
	10/11/2005	4,800	280	280	2,150
	1/20/2006	2,400	38	170	960
	3/28/2007	350	<20.0	230	1,300
	8/5/2008	< 1.0	< 1.0	< 1.0	3.41
	11/24/2008	<1.0	<1.0	<1.0	<3.0
	2/24/2009	<1.0	<1.0	26.6	178
	5/26/2009	<1.0	<1.0	16.9	86.4
	8/31/2009	<1.0	<1.0	8.75	9.01
	12/29/2009	<1.0	<1.0	13.2	52
SB04	6/16/2005	4.8	31.7	46.0	62.6
SB05	6/16/2005	< 1.0	2.9	3.5	41.8
SB06	6/16/2005	9.1	80.3	106	881
	10/11/2005	2.9	<1.0	47	221
	1/20/2006	<1.0	<1.0	16	61.5
	3/28/2007	<1.0	<2.0	<2.0	<6.0
SB07	6/16/2005	7,120	3,090	433	4,610
	10/11/2005	6,400	200	510	1,000
	1/20/2006	3,300	1.2	230	1,698
	3/28/2007	2,100	<100.0	210	1,800
	2/24/2009	<1.0	<1.0	10.4	76.7
	5/26/2009	<1.0	<1.0	<1.0	5.12
	8/31/2009	<1.0	<1.0	9.48	63.8
	12/29/2009	<1.0	<1.0	56.2	462.08



TABLE 2 (CONTINUED)
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC

Sample ID	Sample Date	Volatile Organic Compounds (ug/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
SB08	6/16/2005	69.0	80.4	15.5	175
	1/20/2006	<1.0	<1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
SB09	6/16/2005	11.1	7.1	2.4	27.8
	1/20/2006	1,800	<1.0	130	1,016
	3/28/2007	68	<2.0	25	200
	2/24/2009	59	<1.0	<1.0	<3.0
	5/28/2009	<1.0	<1.0	<1.0	<3.0
	8/31/2009	<1.0	<1.0	<1.0	<3.0
	12/29/2009	<1.0	<1.0	<1.0	<3.0
SB10	6/16/2005	3,260	1,180	211	2,910
	10/11/2005	1,900	450	230	2,030
	1/20/2006	1,900	150	170	1,350
	3/28/2007	1,600	<20.0	190	1,756
	8/5/2008	40.6	<1.0	33.0	68.1
	11/24/2008	Destroyed			
SB10R	2/24/2009	213	<1.0	124	662
	5/28/2009	47.6	<1.0	23	102
	8/31/2009	17.3	<1.0	2.68	5.36
	12/29/2009	12.1	<1.0	57.7	392
SB11	6/17/2005	17.6	57.4	185	590
	10/14/2005	1.8	<1.0	92	240
	1/20/2006	<1.0	<1.0	15	34
	3/28/2007	<1.0	<2.0	7.9	12
	8/5/2008	<1.0	<1.0	<1.0	<3.0
	11/24/2008	<1.0	<1.0	<1.0	<3.0
SB12	6/17/2005	15.1	28.7	10.2	103
	10/11/2005	1.1	<1.0	<1.0	2.1
	1/20/2006	<1.0	<1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
SB13	6/17/2005	9.2	17.3	6.1	65.4
	10/11/2005	2.4	<1.0	<1.0	4.6
	1/20/2006	<1.0	<1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
SB14	6/17/2005	7.5	15.4	7.0	66.3
	10/11/2005	17	<1.0	54	150
	1/20/2006	1.0	<1.0	5.3	5.6
	3/28/2007	<1.0	<2.0	<2.0	<6.0
	8/5/2008	<1.0	<1.0	<1.0	<3.0
SB15	6/17/2005	21.4	19.0	35.0	812
	10/11/2005	14	<1.0	15	110
	1/20/2006	<1.0	<1.0	5.4	<3.0
	3/28/2007	2.9	<2.0	61.0	101.7
	8/5/2008	<1.0	<1.0	<1.0	<3.0
	11/24/2008	<1.0	<1.0	<1.0	<3.0
	2/24/2009	<1.0	<1.0	2.15	2.73
	5/26/2009	<1.0	<1.0	<1.0	<3.0
	8/31/2009	<1.0	<1.0	<1.0	<3.0
	12/29/2009	<1.0	<1.0	<1.0	<3.0



TABLE 2 (CONTINUED)
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC

Sample ID	Sample Date	Volatile Organic Compounds (ug/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
SB16	6/17/2005	7,630	8,210	463	6,770
	10/11/2005	5,400	4,600	470	5,280
	1/20/2006	4,300	4,300	290	3,530
	3/28/2007	2,600	4,400	400	5,860
	8/5/2008	933	86.7	395	3,831
	11/14/2008	<1.0	<1.0	3.31	4.75
	11/24/2008	727	45.9	562	6,906
	2/24/2009	196	13.4	453	5,093
	8/31/2009	4.1	<1.0	111	694
	12/29/2009	<1.0	<1.0	55.3	391
SB17	6/27/2005	< 1.0	< 1.0	< 1.0	< 3.0
SB18	6/17/2005	1,060	190	6.2	870
	10/11/2005	1,000	18	290	2,778
	1/20/2006	41	50	35	700
	3/28/2007	Destroyed			
SB18R	2/24/2009	<1.0	<1.0	103	428.05
	5/28/2009	<1.0	<1.0	8.16	27.6
SB19	6/17/2005	29.9	51.3	9.6	109
	10/11/2005	<1.0	<1.0	<1.0	<3.0
	1/20/2006	<1.0	<1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
SB20	7/18/2005	5,640	< 10	321	4,780
	10/11/2005	2,800	2.0	260	2,500
	1/20/2006	<50	<50	<1.0	2.8
	3/28/2007	140	<2.0	21	130
	8/5/2008	25.3	<1.0	28.9	200.46
	11/24/2008	2.74	<1.0	<1.0	7.98
	2/24/2009	1.12	<1.0	4.26	20.0
	5/26/2009	<1.0	<1.0	<1.0	<3.0
SB21	7/18/2005	209	< 1.0	1.9	22.3
	10/11/2005	11	< 1.0	<1.0	<3.0
	1/20/2006	<1.0	<1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
	11/24/2008	<1.0	<1.0	11.8	49.5
SB22	7/18/2005	< 1.0	< 1.0	< 1.0	3.2
SB23	7/18/2005	13.2	< 1.0	1.5	22.8
	10/11/2005	<1.0	< 1.0	<1.0	<3.0
	1/20/2006	1.0	<1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
	11/24/2008	<1.0	<1.0	<1.0	<3.0
SB24	7/18/2005	21.0	< 1.0	2.7	38.9
	10/11/2005	<1.0	<1.0	<1.0	<3.0
	1/20/2006	<1.0	< 1.0	<1.0	<3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
	11/24/2008	<1.0	<1.0	<1.0	<3.0
SB25	7/18/2005	< 1.0	< 1.0	< 1.0	7
	11/24/2008	<1.0	<1.0	<1.0	<3.0
SB26	7/18/2005	1.8	4.7	51.4	648



TABLE 2 (CONTINUED)
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS

FRICK 18 - 2 & 8
WELD COUNTY, COLORADO
NOBLE ENERGY, INC

Sample ID	Sample Date	Volatile Organic Compounds (ug/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
SB27	2/24/2009	24.7	494	91.9	1,077
	5/26/2009	11.1	188	<1.0	421.9
	8/31/2009	90.5	300	18.6	348.4
	1/7/2010	3.64	144	17.3	311.3
Water Well	6/17/2005	< 1.0	< 1.0	< 1.0	< 3.0
	10/11/2005	< 1.0	< 1.0	< 1.0	< 3.0
	1/20/2006	< 1.0	< 1.0	< 1.0	< 3.0
	3/28/2007	<1.0	<2.0	<2.0	<6.0
CDPHE-WQCC Regulation 41 Groundwater Standards		5.0	560	700	1,400

Notes:

ug/L - micrograms per liter

CDPHE-WQCC - Colorado Department of Public Health and Environment Water Quality Control Commission

Bold indicates concentration exceeds CDPHE-WQCC Regulation 41 Groundwater Standards

Analysis by Environmental Protection Agency Method 8260B.

< indicates analytical result is less than the laboratory detection limit



ATTACHMENT 1
AIR SPARGING WELL COMPLETION LOGS



Well Location Sketch:



A 28

MWCI



Compliance • Engineering • Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: A528 Project: Frick 18-2+8

Date: 11/19/09 Project Number: NEPOS05

Logged By: MH Drilled By: Alpine Field Services

Elevation: Detector: None Drilling Method: H.S. Auger/Direct Push Sampling Method: Continuous

Gravel Pack: CSSI 10x20 (20'-18.5') Seal: Bentonite Chips (18.5'-16.5') Grout: (16.5'-0')

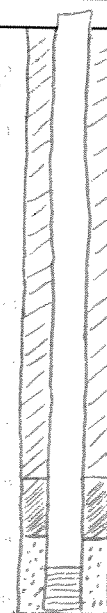
Casing Type: Sch 40 PVC Diameter: 1" Length: 19.5' Hole Diameter: 4" Depth to Liquid: —

Screen Type: Sch 40 PVC Slot: 0.010" Diameter: 1" Length: 1.5' Total Depth: 20' Depth to Water: 5'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
------------------------	------------------	-------------	----------	----------	------------------	------------	----------	----------------	-------------------	-------------------------

					0					
	Moist	1.3	NO		2			SW	Sand (fine), lt. brown, No odor	
	M	3.6	N		4			CL	Clayey sand (fine), lt. brown No odor	
	Wet	1.0	N		6					
	w	121	Yes		8					
	w	150	Y		10			SM	Silty sand (fine-med.), gray stain light odor	
	w	115	Y		12					
	w	211	N		14					
	w	8.3	N		16			CL	Clay w/ fine sand, lt. brown, no odor	
					18					
					20				Hard clay (low plast.), No odor	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Total Depth @ 20'



Well Location Sketch:



A AS31

SBIDR



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: AS31 Project: Frick 18-2+8

Date: 11/19/09 Project Number: NEPOS05

Logged By: MH Drilled By: Alpine Field Services

Drilling Method: Direct Push Sampling Method: Continuous

Seal: Bentonite Chips (13.5'-11.5') Grout: (11.5'-0')

Gravel Pack:
CSSI 10x20

(15'-13.5')

Casing Type:
Sch 40 PVC

Diameter: 1" Length: 13.5' Hole Diameter: 4" Depth to Liquid:

Screen Type:
Sch 40 PVC

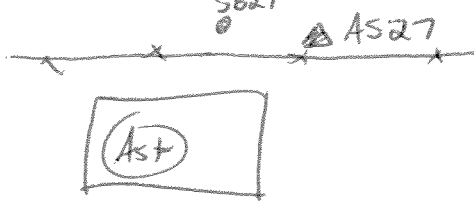
Slot: 0.010"

Diameter: 1" Length: 1.5' Total Depth: 15' Depth to Water: 2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	2.3	NO		2			CL	clayey sand (fine), dark brown No odor	
	Wet	22	Yes		4			SC	clayey sand (fine), black, black staining, strong odor	
	W	39.2	Y		6					
	W	450	Y		8					
	W	77.4	Y		10					
	W	3.8	N		12					
					14			SC	clayey sand (fine), lt. brown No odor	
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Total Depth @ 15'

Well Location Sketch:



Compliance • Engineering • Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

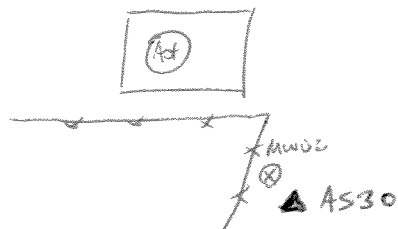
BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: AS27 Project: Frick 18-248Date: 11/19/09 Project Number: NEP0505Logged By: MH Drilled By: Alpine Field ServicesDrilling Method: H.S. Auger Sampling Method: ContinuousSeal: Bentonite Chips (18.5'-16.5') Grout: (16.5'-0')Diameter: 1" Length: 19.5' Hole Diameter: 4" Depth to Liquid: Diameter: 1" Length: 1.5' Total Depth: 20' Depth to Water: Gravel Pack: CSSI 10x20 (20'-18.5')Casing Type: Sch 40 PVCScreen Type: Sch 40 PVCSlot: 0.010"

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2					
					4					
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Total Depth @ 20'

Well Location Sketch:



Compliance • Engineering • Remediation
LT Environmental, Inc.
 4600 W. 60th Avenue
 Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAMBoring/Well Number: **AG30** Project: **Frick 18-2+8**Date: **11/19/09** Project Number: **NEPOS05**Logged By: **MH** Drilled By: **Alpine Field Services**Drilling Method: **H.S. Auger** Sampling Method: **Continuous**Gravel Pack: **CSSI 10x20 (18'-16.5')** Seal: **Bentonite Chips (16.5'-14.5')** Grout: **(14.5'-0')**Casing Type: **Sch 40 PVC** Diameter: **1"** Length: **18'** Hole Diameter: **4"** Depth to Liquid: **—**Screen Type: **Sch 40 PVC** Slot: **0.010"** Diameter: **1"** Length: **1.5'** Total Depth: **18'** Depth to Water: **—**

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2					
					4					
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Total Depth @ 18'

Well Location Sketch:



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAMBoring/Well Number: **A529** Project: **Frick 18-2+8**Date: **11/19/09** Project Number: **NEPOSOS**Logged By: **MH** Drilled By: **Alpine Field Services**Elevation: Detector: **None** Drilling Method: **H.S. Auger** Sampling Method: **Continuous**Gravel Pack: **CSSI 10x20 (18'-16.5')** Seal: **Bentonite Chips (16.5'-14.5')** Grout: **(14.5'-0')**Casing Type: **Sch 40 PVC** Diameter: **1"** Length: **16.5'** Hole Diameter: **4"** Depth to Liquid: **—**Screen Type: **Sch 40 PVC** Slot: **0.010"** Diameter: **1"** Length: **1.5'** Total Depth: **18'** Depth to Water: **—**

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
------------------------	------------------	-------------	----------	----------	------------------	------------	----------	----------------	-------------------	-------------------------

					0					
					2					
					4					
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Total Depth @ 18'



ATTACHMENT 2
LABORATORY ANALYTICAL REPORTS





4640 Pecos Street | Unit C | Denver, Colorado 80211
303.433.1322 Phone 303.265.9645 Fax

January 05, 2010

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18-2&8

Attached are the analytical results for Noble – Frick 18-2&8 received by Origins Laboratory, Inc. 12/29/2009 5:01:00PM. Please let us know if you have any questions, or if we can help with anything at all.

Laboratory Manager
Noelle E Doyle

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. This laboratory report is intended solely for the above addressee and it is only to be used and or reproduced in its entirety.

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW01	X912125-01	Water	12/29/2009 12:45:00PM	12/29/2009 17:01
MW02	X912125-02	Water	12/29/2009 12:55:00PM	12/29/2009 17:01
SB02R	X912125-03	Water	12/29/2009 1:10:00PM	12/29/2009 17:01
SB03	X912125-04	Water	12/29/2009 12:50:00PM	12/29/2009 17:01
SB07	X912125-05	Water	12/29/2009 1:20:00PM	12/29/2009 17:01
SB09	X912125-06	Water	12/29/2009 1:30:00PM	12/29/2009 17:01
SB10R	X912125-07	Water	12/29/2009 2:05:00PM	12/29/2009 17:01
SB15	X912125-08	Water	12/29/2009 1:55:00PM	12/29/2009 17:01
SB16	X912125-09	Water	12/29/2009 1:40:00PM	12/29/2009 17:01

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble - Frick 18-2&8

www.originslaboratory.com

page 1 of 1



X912125

Client: LT Env
Address: 4600 W 60th Ave
Telephone Number: 303-433-9788
Email Address: bdodek@ltenv.com
Project Manager: Brian Dodek
Project Name: Frick 18-2 & 8
Project Number: NEP0505
Samples Collected By: D616C

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
MW 01	12/24/04	12:45	3	X				X			8728	1
MW 02		14:55	1	X				X				2
SB 02R		13:10	1	X								3
SB 03		12:50	1	X								4
SB 07		13:20	1	X								5
SB 09		13:30	1	X								6
SB 10R		14:05	1	X								7
SB 15		13:55	1	X								8
SB 16		13:40	1	X								9
												10
Relinquished By: <u>Brian Dodek</u>	Date: <u>12-27-04</u>	Time: <u>17:01</u>	Received By: <u>[Signature]</u>	Date: <u>12-27-04</u>	Time: <u>17:01</u>	Turnaround Time: <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input checked="" type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard						
Relinquished By:	Date:	Time:	Received By:	Date:	Time:							

4640 North Pecos Street | Unit C | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

MW01

X912125–01 (Water)

12/29/2009 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.919	0.0500	mg/L	50	9L30002	12/30/2009	01/04/2010	
Toluene	ND	0.00100	"	1	"	"	01/02/2010	
Ethylbenzene	0.00564	0.00100	"	"	"	"	"	
o-Xylene	0.00116	0.00100	"	"	"	"	"	
m,p-Xylene	0.0341	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	105 %	76.8–127	"	"	"	"	"	
Surrogate: Toluene-d8	92.3 %	71.4–123	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	87.6–133	"	"	"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

MW02

X912125–02 (Water)

12/29/2009 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00128	0.00100	mg/L	1	9L30002	12/30/2009	01/02/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	0.00162	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	0.0146	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	111 %	76.8–127			"	"	"	
Surrogate: Toluene-d8	91.6 %	71.4–123			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.7 %	87.6–133			"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB02R

X912125–03 (Water)

12/29/2009 1:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00223	0.00100	mg/L	1	9L30002	12/30/2009	01/04/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
o-Xylene	0.00411	0.00100	"	"	"	"	"	
m,p-Xylene	0.0203	0.00200	"	"	"	"	01/02/2010	

Surrogate: 1,2-Dichloroethane-d4	112 %	76.8–127	"	"	"	"	"	
Surrogate: Toluene-d8	91.0 %	71.4–123	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.8 %	87.6–133	"	"	"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB03

X912125–04 (Water)

12/29/2009 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9L30002	12/30/2009	01/02/2010
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	0.0132	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	0.0520	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	76.8–127	"	"	"
Surrogate: Toluene-d8	92.0 %	71.4–123	"	"	"
Surrogate: 4-Bromofluorobenzene	97.0 %	87.6–133	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB07

X912125–05 (Water)

12/29/2009 1:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9L30002	12/30/2009	01/02/2010
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	0.0562	0.00100	"	"	"	"	"
o-Xylene	0.00108	0.00100	"	"	"	"	"
m,p-Xylene	0.461	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	100 %	76.8–127	"	"	"
Surrogate: Toluene-d8	90.2 %	71.4–123	"	"	"
Surrogate: 4-Bromofluorobenzene	98.7 %	87.6–133	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB09

X912125–06 (Water)

12/29/2009 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9L30002	12/30/2009	01/02/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	ND	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	116 %	76.8–127			"	"	"	
Surrogate: Toluene-d8	90.0 %	71.4–123			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.8 %	87.6–133			"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB10R

X912125–07 (Water)

12/29/2009 2:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.0121	0.00100	mg/L	1	9L30002	12/30/2009	01/02/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	0.0577	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	0.392	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %	76.8–127			"	"	"	
Surrogate: Toluene-d8	92.8 %	71.4–123			"	"	"	
Surrogate: 4-Bromofluorobenzene	89.5 %	87.6–133			"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB15

X912125–08 (Water)

12/29/2009 1:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9L30002	12/30/2009	01/02/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	ND	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	116 %	76.8–127			"	"	"	
Surrogate: Toluene-d8	92.6 %	71.4–123			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.9 %	87.6–133			"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB16

X912125–09 (Water)

12/29/2009 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9L30002	12/30/2009	01/04/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	0.0553	0.0100	"	10	"	"	01/02/2010	
o-Xylene	ND	0.00100	"	1	"	"	01/04/2010	
m,p-Xylene	0.391	0.0200	"	10	"	"	01/02/2010	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>	<i>76.8–127</i>			<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>	<i>89.9 %</i>	<i>71.4–123</i>			<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.2 %</i>	<i>87.6–133</i>			<i>"</i>	<i>"</i>	<i>"</i>	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
 Denver, Colorado 80211
 303.433.1322 | Laboratory
 303.265.9645 | Fax



LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Dodek
 Project Number: NEP0505
 Project: Noble – Frick 18–2&8

Volatile Organic Compounds by EPA Method 8260B – Quality Control
Origins Laboratory, Inc.

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

Batch 9L30002 – EPA 5030B

Blank (9L30002–BLK1)

Prepared: 12/30/2009 Analyzed: 01/01/2010

Benzene	ND	0.001	mg/L							
Toluene	ND	0.001	"							
Ethylbenzene	ND	0.001	"							
o-Xylene	ND	0.001	"							
m,p-Xylene	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	69.7		ug/L	62.5		112	76.8–127			
Surrogate: Toluene-d8	61.1		"	62.5		97.7	71.4–123			
Surrogate: 4-Bromofluorobenzene	58.9		"	62.5		94.3	87.6–133			

Blank (9L30002–BLK2)

Prepared: 12/30/2009 Analyzed: 01/01/2010

Benzene	ND	0.001	mg/L							
Toluene	ND	0.001	"							
Ethylbenzene	ND	0.001	"							
o-Xylene	ND	0.001	"							
m,p-Xylene	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	66.6		ug/L	62.5		107	76.8–127			
Surrogate: Toluene-d8	60.9		"	62.5		97.5	71.4–123			
Surrogate: 4-Bromofluorobenzene	60.9		"	62.5		97.5	87.6–133			

LCS (9L30002–BS1)

Prepared: 12/30/2009 Analyzed: 01/01/2010

Benzene	0.04	0.001	mg/L	0.0500		80.7	79.3–122			
Toluene	0.04	0.001	"	0.0500		81.9	73.4–130			
Surrogate: 1,2-Dichloroethane-d4	61.1		ug/L	62.5		97.8	76.8–127			
Surrogate: Toluene-d8	60.6		"	62.5		96.9	71.4–123			
Surrogate: 4-Bromofluorobenzene	59.4		"	62.5		95.0	87.6–133			

LCS (9L30002–BS2)

Prepared: 12/30/2009 Analyzed: 01/01/2010

Benzene	0.04	0.001	mg/L	0.0500		84.8	79.3–122			
Toluene	0.04	0.001	"	0.0500		84.3	73.4–130			

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
 Denver, Colorado 80211
 303.433.1322 | Laboratory
 303.265.9645 | Fax



LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Dodek
 Project Number: NEP0505
 Project: Noble – Frick 18-2&8

Volatile Organic Compounds by EPA Method 8260B – Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9L30002 – EPA 5030B										
LCS (9L30002-BS2)					Prepared: 12/30/2009 Analyzed: 01/01/2010					
Surrogate: 1,2-Dichloroethane-d4	60.1		ug/L	62.5		96.2	76.8-127			
Surrogate: Toluene-d8	60.4		"	62.5		96.7	71.4-123			
Surrogate: 4-Bromofluorobenzene	60.9		"	62.5		97.4	87.6-133			
Matrix Spike (9L30002-MS1)					Source: X912126-01 Prepared: 12/30/2009 Analyzed: 01/01/2010					
Benzene	0.04	0.001	mg/L	0.0500	ND	81.3	80.2-129			
Toluene	0.04	0.001	"	0.0500	ND	78.4	74.8-126			
Surrogate: 1,2-Dichloroethane-d4	62.5		ug/L	62.5		100	76.8-127			
Surrogate: Toluene-d8	59.9		"	62.5		95.9	71.4-123			
Surrogate: 4-Bromofluorobenzene	58.0		"	62.5		92.8	87.6-133			
Matrix Spike (9L30002-MS2)					Source: X912126-02 Prepared: 12/30/2009 Analyzed: 01/01/2010					
Benzene	0.04	0.001	mg/L	0.0500	ND	82.8	80.2-129			
Toluene	0.04	0.001	"	0.0500	ND	79.7	74.8-126			
Surrogate: 1,2-Dichloroethane-d4	63.3		ug/L	62.5		101	76.8-127			
Surrogate: Toluene-d8	59.8		"	62.5		95.6	71.4-123			
Surrogate: 4-Bromofluorobenzene	59.6		"	62.5		95.4	87.6-133			
Matrix Spike Dup (9L30002-MSD1)					Source: X912126-01 Prepared: 12/30/2009 Analyzed: 01/01/2010					
Benzene	0.04	0.001	mg/L	0.0500	ND	81.3	80.2-129	0.0492	18.7	
Toluene	0.04	0.001	"	0.0500	ND	77.9	74.8-126	0.614	21.9	
Surrogate: 1,2-Dichloroethane-d4	62.5		ug/L	62.5		100	76.8-127			
Surrogate: Toluene-d8	59.7		"	62.5		95.5	71.4-123			
Surrogate: 4-Bromofluorobenzene	59.4		"	62.5		95.1	87.6-133			
Matrix Spike Dup (9L30002-MSD2)					Source: X912126-02 Prepared: 12/30/2009 Analyzed: 01/01/2010					
Benzene	0.04	0.001	mg/L	0.0500	ND	84.3	80.2-129	1.84	18.7	
Toluene	0.04	0.001	"	0.0500	ND	78.6	74.8-126	1.39	21.9	
Surrogate: 1,2-Dichloroethane-d4	65.4		ug/L	62.5		105	76.8-127			

Origins Laboratory, Inc.

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

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

Volatile Organic Compounds by EPA Method 8260B – Quality Control
Origins Laboratory, Inc.

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

Batch 9L30002 – EPA 5030B

Matrix Spike Dup (9L30002–MSD2)

Source: X912126–02

Prepared: 12/30/2009 Analyzed: 01/01/2010

Surrogate: Toluene-d8	59.3	ug/L	62.5	94.8	71.4–123
Surrogate: 4–Bromofluorobenzene	59.2	"	62.5	94.7	87.6–133

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP0505
Project: Noble – Frick 18–2&8

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager



4640 Pecos Street | Unit C | Denver, Colorado 80211
303.433.1322 Phone 303.265.9645 Fax

January 15, 2010

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Rob Rebel
Project Number: NEP0505
Project: Noble – Frick 18-2&8

Attached are the analytical results for Noble – Frick 18-2&8 received by Origins Laboratory, Inc. 1/8/2010 8:30:00AM. Please let us know if you have any questions, or if we can help with anything at all.

Laboratory Manager
Noelle E Doyle

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. This laboratory report is intended solely for the above addressee and it is only to be used and or reproduced in its entirety.

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Rob Rebel
Project Number: NEP0505
Project: Noble – Frick 18–2&8

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB27	X001027-01	Water	1/7/2010 3:50:00PM	01/08/2010 08:30

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

Rob Rebel
Project Number: NEP0505
Project: Noble – Frick 18-2&8

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix				Analysis	Turnaround Time:
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other			
5627	1/7/10	1550	3	X	X			X					BTEX 8260	Same Day <input type="checkbox"/> 24 Hr <input checked="" type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/>
Relinquished By: <i>[Signature]</i>	Date: 1/8/10		Time: 9:30										Date: Time:	Same Day <input type="checkbox"/> 24 Hr <input checked="" type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/>
Relinquished By: <i>[Signature]</i>	Date:		Time:										Date: Time: 1/5/10 8:30	

Date Results Needed 11/1/07

Page 3 of 6

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Rob Rebel
Project Number: NEP0505
Project: Noble – Frick 18–2&8

SB27

X001027–01 (Water)

1/7/2010 3:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00364	0.00100	mg/L	1	0A12003	01/12/2010	01/14/2010	
Toluene	0.144	0.00100	"	"	"	"	"	
Ethylbenzene	0.0173	0.00100	"	"	"	"	"	
o-Xylene	0.0393	0.00100	"	"	"	"	"	
m,p-Xylene	0.272	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	93.4 %	76.8–127			"	"	01/13/2010	
Surrogate: Toluene-d8	111 %	71.4–123			"	"	"	
Surrogate: 4-Bromofluorobenzene	107 %	87.6–133			"	"	"	

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

4640 Pecos Street | Unit C
 Denver, Colorado 80211
 303.433.1322 | Laboratory
 303.265.9645 | Fax



LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Rob Rebel
 Project Number: NEP0505
 Project: Noble – Frick 18-2&8

Volatile Organic Compounds by EPA Method 8260B – Quality Control
Origins Laboratory, Inc.

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

Batch 0A12003 – EPA 5030B

Blank (0A12003–BLK1)

Prepared: 01/12/2010 Analyzed: 01/13/2010

Benzene	ND	0.001	mg/L
Toluene	ND	0.001	"
Ethylbenzene	ND	0.001	"
o-Xylene	ND	0.001	"
m,p-Xylene	ND	0.002	"

Surrogate: 1,2-Dichloroethane-d4	59.4	ug/L	62.5	95.0	76.8-127
Surrogate: Toluene-d8	61.5	"	62.5	98.4	71.4-123
Surrogate: 4-Bromofluorobenzene	59.1	"	62.5	94.6	87.6-133

LCS (0A12003–BS1)

Prepared: 01/12/2010 Analyzed: 01/14/2010

Benzene	0.05	0.001	mg/L	0.0500	94.8	79.3-122
Toluene	0.05	0.001	"	0.0500	106	73.4-130
Surrogate: 1,2-Dichloroethane-d4	47.0	ug/L	62.5	75.2	76.8-127	S-GC
Surrogate: Toluene-d8	62.1	"	62.5	99.4	71.4-123	
Surrogate: 4-Bromofluorobenzene	58.5	"	62.5	93.6	87.6-133	

Matrix Spike (0A12003–MS1)

Source: X001032-03

Prepared: 01/12/2010 Analyzed: 01/14/2010

Benzene	0.05	0.001	mg/L
Toluene	0.05	0.001	"
Surrogate: 1,2-Dichloroethane-d4	56.4		ug/L
Surrogate: Toluene-d8	62.1		"
Surrogate: 4-Bromofluorobenzene	60.5		"

Matrix Spike Dup (0A12003–MSD1)

Source: X001032-03

Prepared: 01/12/2010 Analyzed: 01/14/2010

Benzene	0.05	0.001	mg/L
Toluene	0.06	0.001	"
Surrogate: 1,2-Dichloroethane-d4	55.8		ug/L
Surrogate: Toluene-d8	64.2		"
Surrogate: 4-Bromofluorobenzene	60.7		"

Origins Laboratory, Inc.

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

4640 Pecos Street | Unit C
Denver, Colorado 80211
303.433.1322 | Laboratory
303.265.9645 | Fax



LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Rob Rebel

Project Number: NEP0505

Project: Noble – Frick 18-2&8

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager