COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.

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May 4, 2012

Mr. Chuck Cornell
Shell Exploration and Production Company
4582 South Ulster Street Parkway, Suite 1400
Denver, Colorado 80237

RE: First Quarter 2012 Monitoring Report
WT Durham #4 Flowline Release
Remediation #4990
Moffat County, Colorado

Dear Mr. Cornell:

LT Environmental, Inc. (LTE) was retained by Shell Exploration and Production Company (SEPCO) to conduct quarterly groundwater monitoring activities at the WT Durham #4 Flowline Release (Site). LTE collected depth to groundwater measurements and groundwater quality parameters prior to sampling. Additionally, LTE evaluated geochemical indicators to estimate natural attenuation rates.

Site history and remediation activities were outlined in the Form 27 - Site Investigation and Remediation Workplan submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on June 17, 2010, (Remediation #4990). The Site Location Map is provided as attached Figure 1.

Depth to Groundwater Measurements

LTE surveyed the top of casing elevations for each monitoring well on September 16, 2010. Calculating the difference in the top of casing and depth to groundwater, LTE determined the groundwater elevation in each monitoring well and generated a groundwater elevation map (Figure 3). Based on the groundwater elevation map, groundwater flow during this monitoring event was generally to the northeast, toward Waddle Creek.

Depth to groundwater was measured in monitoring wells MW01 through MW11 on March 28, 2012, and recorded to calculate potentiometric surfaces and purge volumes. During the March 2012 sampling event, the depths to static groundwater level ranged from 2.50 feet below top of casing (BTOC) in MW04 to 3.91 feet BTOC in MW11 (Table 1).

Groundwater Sampling Procedures

Each monitoring well was purged of a minimum three well casing volumes prior to collection of groundwater samples. Groundwater samples were collected from each monitoring well utilizing disposable 1.6-inch diameter polyethylene bailers. Groundwater samples were collected in laboratory prepared sample bottles, placed on ice, and delivered under chain-of-custody (COC)

protocol to Origins Laboratory (Origins) located in Denver, Colorado. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8260C.

Prior to sampling, LTE conducted field screening of pH, temperature, conductivity, dissolved oxygen (DO), total dissolved solids (TDS), and oxidation reduction potential (ORP). General water quality parameters are summarized in Table 2.

In addition to BTEX, monitoring wells MW02, MW06, and MW11 were sampled for geochemical indicators. Samples were analyzed for dissolved manganese and total iron by EPA Method 6010B, and sulfate and nitrate by EPA Method 300.

Groundwater samples were collected for dissolved manganese analysis by advancing disposable 3/16-inch diameter polyethylene tubing into groundwater within the 2-inch diameter polyvinyl chloride (PVC) well casing. A peristaltic pump was utilized to collect the groundwater samples. LTE filtered the manganese samples with a 0.45 micron cartridge-style filter prior to placement into the laboratory-prepared sample bottles.

Groundwater Analytical Results

The Colorado Department of Public Health and Environmental (CDPHE) Water Quality Control Commission (WQCC) has established Regulation 41 - Basic Standards for Ground Water for BTEX of 5.0 micrograms per liter (µg/L) for benzene, 560 µg/L for toluene, 700 µg/L for ethylbenzene, and 1,400 µg/L for total xylenes. Table 1 summarizes the historical groundwater analytical results for samples collected. The laboratory analytical report, laboratory quality assurance/quality control data, and COC documentation are attached.

Eleven groundwater samples were collected and submitted to Origins for BTEX analysis during the March 2012 groundwater monitoring event. Groundwater analytical results indicate benzene was detected in exceedance of the CDPHE-WQCC Regulation 41 standard in monitoring wells MW05 and MW06 at concentrations of 22.2 µg/L and 92.9 µg/L, respectively. BTEX compounds were not detected above the laboratory method detection limits or were in compliance with CDPHE-WQCC Regulation 41 in the nine remaining groundwater samples. Groundwater analytical results for the March 2012 monitoring event are summarized in Table 1.

Monitored Natural Attenuation Evaluation

LTE utilized groundwater quality parameters and geochemical indicators to determine if natural attenuation of petroleum hydrocarbon compounds is occurring at the site, and whether monitored natural attenuation (MNA) remains an effective remedial method to achieve site cleanup goals.

Groundwater Quality Parameter Results

LTE personnel collected general water quality parameters during sampling activities to establish whether the appropriate site conditions existed for biodegradation of residual dissolved phase

hydrocarbons. Initial field screening results indicated pH readings are within a range for optimal biodegradation. Differences in temperature readings are attributable to seasonal groundwater fluctuations and ambient weather conditions.

Inorganics including TDS are regulated by the COGCC in groundwater. The TDS concentrations observed monitoring wells MW01 through MW11 ranged from 1.226 g/L to 2.067 g/L. LTE believes the TDS concentrations observed at the Site are representative of background conditions.

DO concentrations within the plume are similar to those concentrations outside of the plume, indicating that the mass flux of DO to the groundwater from ambient air has exceeded biological oxygen demand as the aerobic microbes are likely being stimulated. All of the DO concentrations remain greater than 1 milligram per liter (mg/L) which indicates that oxygen is available and being utilized within the plume to promote biodegradation and natural attenuation. The data also indicates that DO concentrations have increased in all monitoring wells with the exception of MW01 and MW09. This indicates aerobic conditions currently exist and biological activity is predominantly aerobic due to the increased DO concentrations. Aerobic biodegradation of dissolved phase hydrocarbons appears to be the principle means of natural attenuation at the site. LTE believes biodegradation will continue to occur at the Site.

Geochemical Indicators

In order to further evaluate secondary lines of evidence to detail subsurface biodegradation processes, LTE collected groundwater samples for geochemical indicators that included manganese, total iron (representative of ferrous iron), sulfate, and nitrate. In the absence or near absence of DO, microorganisms metabolize petroleum contaminates through the use of these alternate electron acceptors. General groundwater quality parameters indicate DO is available throughout the Site, establishing an aerobic environment. However, the secondary or anaerobic microbes can potentially contribute to biodegradation. Geochemical data is summarized in Table 3.

As shown in Table 3, monitoring wells MW02, MW06, and MW11 were sampled for these secondary electron acceptors in downgradient, in-plume, and upgradient locations, respectively. The data indicates that iron, manganese and sulfate are currently being utilized as electron acceptors by subsurface microbes to promote biologically mediated anaerobic hydrocarbon oxidation of petroleum hydrocarbons. Nitrate results indicate that there is no significant presence of nitrate upgradient, in plume, or downgradient. In summary, subsurface anaerobic processes are occurring but are secondary in nature due to the presence of DO.

Summary and Conclusions

As seen on Table 1, the benzene concentrations in monitoring wells MW05 and MW06 exceed the CDPHE-WQCC Regulation 41 standard. However, since the August 2011 monitoring event, the benzene concentration in well MW05 has decreased from 26.1 µg/L to 22.2 µg/L, and the benzene concentration in MW06 has decreased from 475 µg/L to 92.9 µg/L.

On average since August 2011, depths to groundwater have increased between 1.14 feet and 2.17 feet BTOC. Based on the groundwater elevation map, groundwater generally flows to the northeast toward Waddle Creek.

LTE utilized groundwater quality parameters and geochemical indicators to determine if biodegradation of hydrocarbon concentrations is occurring and whether MNA is an effective remedial method to achieve site cleanup goals. Based on general water quality data, the biodegradation of benzene in groundwater appears to be naturally occurring. Therefore, MNA remains as the current remedial action occurring at the site. LTE recommends continuing quarterly groundwater monitoring at the Site. The next sampling event is scheduled for June 2012.

Limitations

No investigation is infallible. Some uncertainty will always exist concerning the presence or absence of potential contaminants at a particular property, irrespective of the rigor of the investigation. Accordingly, LTE does not warrant that contaminants, other than those identified in this report, do not exist at the subject property or may not exist there in the future.

LTE believes that it has performed the services summarized in this report in a manner consistent with the level of care and skill ordinarily exercised by members of the environmental profession practicing at the same time and under similar conditions in the area of the project.

Sincerely,

LT ENVIRONMENTAL, INC.

Chris McKisson
Staff Environmental Scientist

Robert D. Fishburn C.P.G, P.G.
Senior Hydrogeologist

Attachments:

Figure 1- Site Location Map
Figure 2 - Site Map
Figure 3 - Groundwater Elevation Map
Table 1 - Groundwater Analytical Data
Table 2 - General Water Quality Data
Table 3 - Geochemical Data
Attachment 1 - Laboratory Analytical Reports

FIGURES

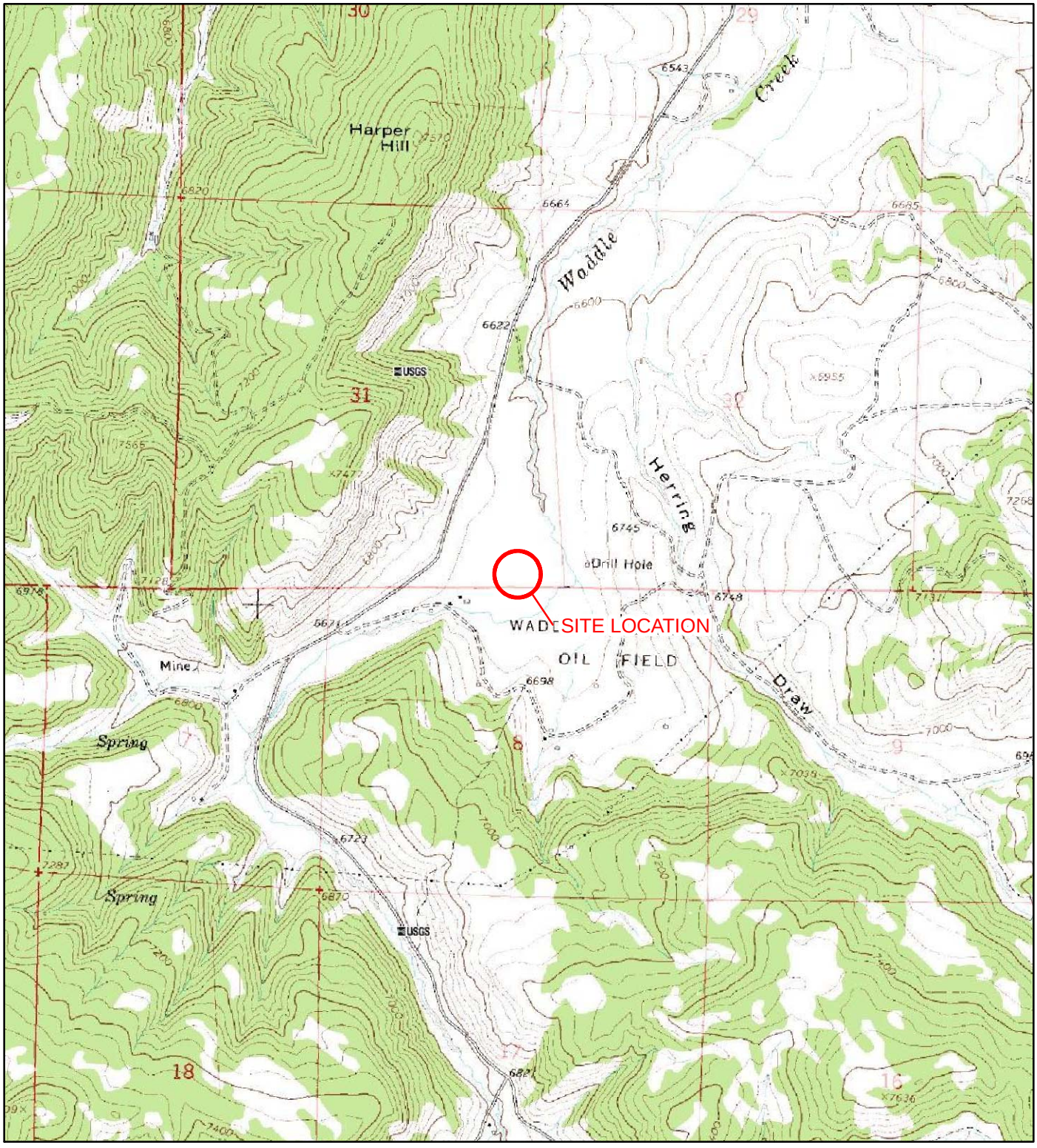


IMAGE COURTESY OF WWW.TERRASERVER.COM/USGS, 1966

LEGEND

SITE LOCATION

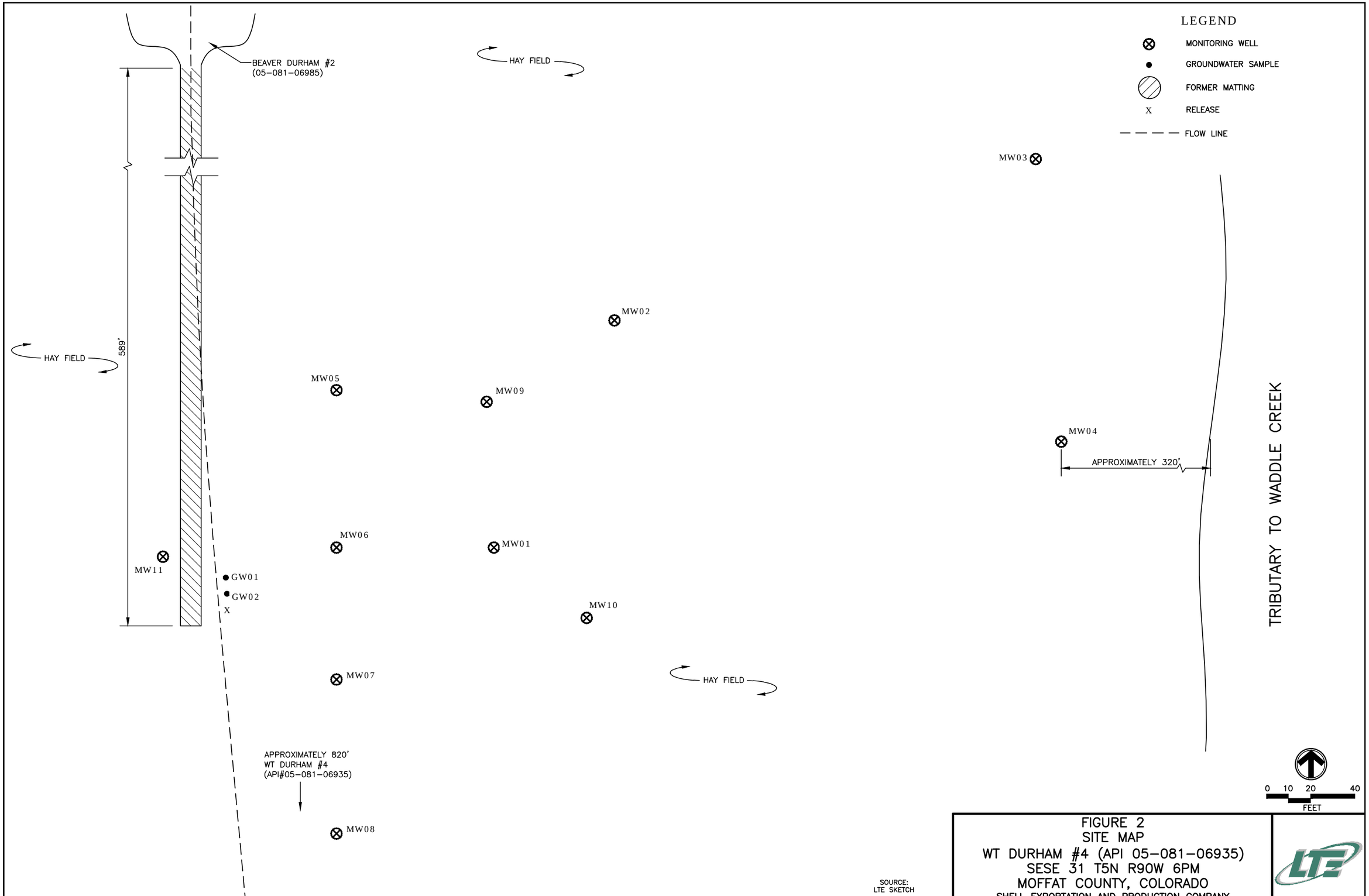
0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
WT DURHAM #4 (API 05-081-06935)
SESE SEC 31 T5N R90W 6PM
MOFFAT COUNTY, CO
EAST RESOURCES, INC.

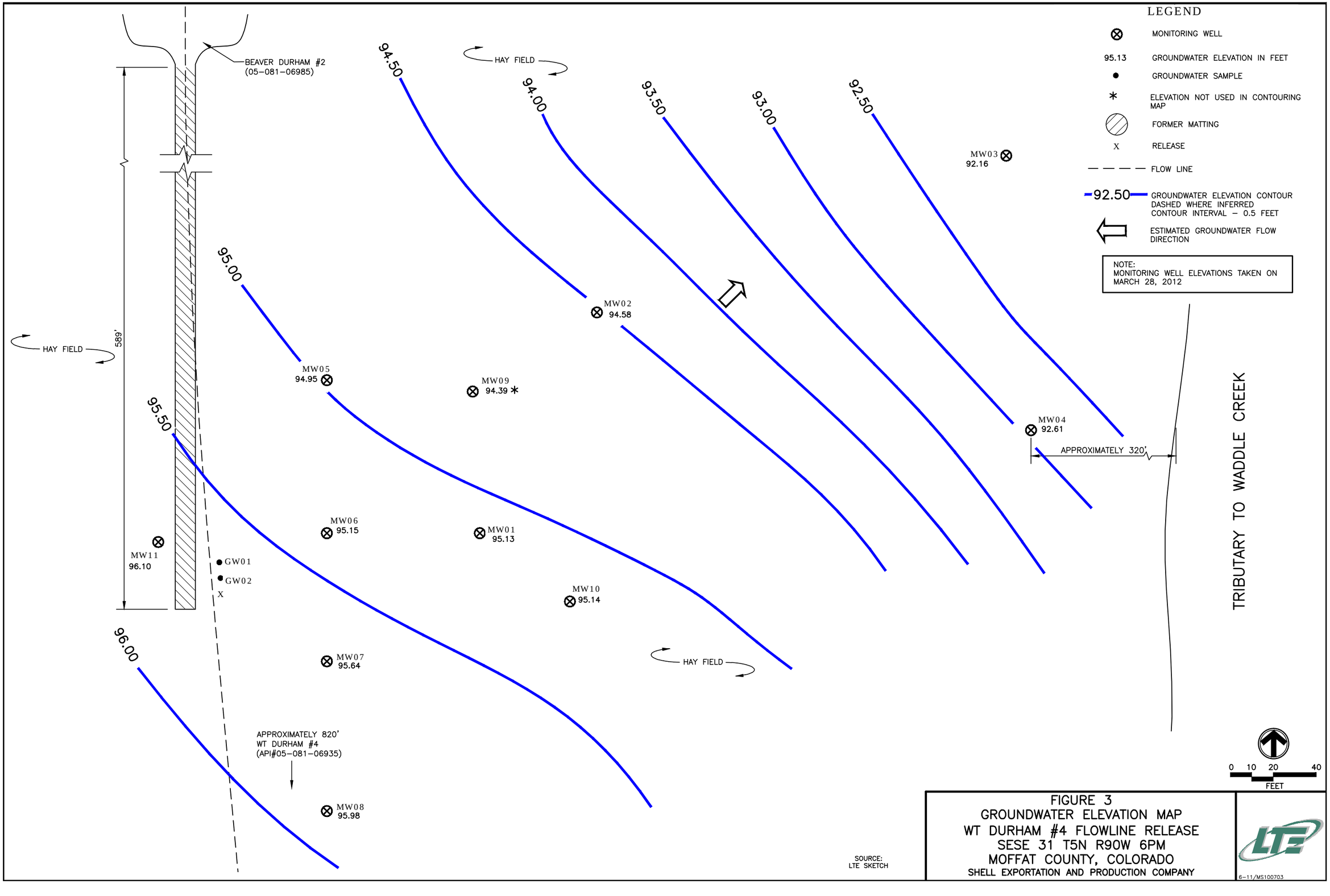
P:\MISCELLANEOUS\GIS\MXD's\MS1007 EAST RESOURCES\FIG 01 WT DURHAM 4 SL.mxd



SOURCE:
LTE SKETCH

FIGURE 2
SITE MAP
WT DURHAM #4 (API 05-081-06935)
SESE 31 T5N R90W 6PM
MOFFAT COUNTY, COLORADO
SHELL EXPORTATION AND PRODUCTION COMPANY

6-11/MS100701


BEAVER DURHAM #2
(05-081-06985)
HAY FIELD
589'
HAY FIELD
94.50
94.00
93.50
93.00
92.50
95.00
95.50
96.00
MW03
92.16
MW02
94.58
MW05
94.95
MW09
94.39 *
MW04
92.61
APPROXIMATELY 320'
MW11
96.10
GW01
GW02
X
MW06
95.15
MW01
95.13
MW10
95.14
MW07
95.64
HAY FIELD
APPROXIMATELY 820'
WT DURHAM #4
(API#05-081-06935)
MW08
95.98
TRIBUTARY TO WADDLE CREEK
LEGEND
MONITORING WELL
95.13 GROUNDWATER ELEVATION IN FEET
GROUNDWATER SAMPLE
* ELEVATION NOT USED IN CONTOURING MAP
FORMER MATTING
X RELEASE
FLOW LINE
92.50 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED CONTOUR INTERVAL – 0.5 FEET
ESTIMATED GROUNDWATER FLOW DIRECTION
NOTE:
MONITORING WELL ELEVATIONS TAKEN ON MARCH 28, 2012
0 10 20 40
FEET
SOURCE:
LTE SKETCH
FIGURE 3
GROUNDWATER ELEVATION MAP
WT DURHAM #4 FLOWLINE RELEASE
SESE 31 T5N R90W 6PM
MOFFAT COUNTY, COLORADO
SHELL EXPORTATION AND PRODUCTION COMPANY
6-11/MS100703

TABLES

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
WT DURHAM #4 FLOWLINE RELEASE
MOFFAT COUNTY, COLORADO
SHELL EXPLORATION AND PRODUCTION COMPANY

Well ID	Date	Depth to Water (ft btoc)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW01	5/4/10	3.52	3.1	<2	<2	<2
	7/14/10	4.21	**9**	<1	<1	<3
	9/16/10	9.15	**10.1**	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	2.25	<1	<1	<1	<3
	8/24/11	5.15	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.72	<1.0	<1.0	<1.0	<1.0
MW02	5/4/10	2.86	<2	<2	<2	<2
	7/14/10	3.65	<1	<1	<1	<3
	9/16/10	9.81	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	3.00	<1	<1	<1	<3
	8/24/11	4.82	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	2.97	<1.0	<1.0	<1.0	<1.0
MW03	5/4/10	3.30	<2	2	<2	3.3
	7/14/10	3.66	<1	<1	<1	<3
	9/16/10	9.81	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	3.05	<1	<1	<1	<3
	8/24/11	5.54	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.37	<1.0	<1.0	<1.0	<1.0
MW04	5/4/10	2.69	<2	2.4	<2	<2
	7/14/10	3.16	1.12	1.71	<1	<3
	9/16/10	9.83	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	2.97	<1	<1	<1	<3
	8/24/11	4.32	<1	1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	2.50	<1.0	<1.0	<1.0	<1.0
MW05	7/14/10	2.70	<1	<1	<1	<3
	9/16/10	10.01	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	3.24	<1	<1	<1	<3
	8/24/11	4.09	**26.1**	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	2.54	**22.2**	<1.0	<1.0	<1.0
MW06	7/14/10	3.61	**1,520**	78.1	88.1	198.1
	9/16/10	9.96	**354**	<1	44.4	16.3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	2.88	**651**	<1	10.7	12.2
	8/24/11	4.71	**475**	1.5	1.6	3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.35	**92.9**	<1.0	<1.0	<1.0

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
WT DURHAM #4 FLOWLINE RELEASE
MOFFAT COUNTY, COLORADO
SHELL EXPLORATION AND PRODUCTION COMPANY

Well ID	Date	Depth to Water (ft btoc)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW07	7/14/10	3.99	**58.7**	<1	1.52	8.16
	9/16/10	9.73	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	2.97	**280**	<1	4.4	11.6
	8/24/11	4.89	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.66	<1.0	<1.0	<1.0	<1.0
MW08	9/16/10	10.13	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/2/11	2.84	<1	<1	<1	<3
	8/24/11	5.00	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.86	<1.0	<1.0	<1.0	<1.0
MW09	9/16/10	10.30	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	3.10	<1	<1	<1	<3
	8/24/11	4.43	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	2.90	2.03	<1.0	<1.0	<1.0
MW10	9/16/10	9.93	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	3.22	<1	<1	<1	<3
	8/24/11	5.10	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.70	<1.0	<1.0	<1.0	<1.0
MW11	9/16/10	10.05	<1	<1	<1	<3
	12/28/10	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM
	5/3/11	3.07	<1	<1	<1	<3
	8/24/11	5.41	<1	<1	<1	<3
	11/23/11	NM	NM	NM	NM	NM
	3/29/12	3.91	<1.0	<1.0	<1.0	<1.0
GW01	5/11/10	-	**1,370**	**1,730**	72.3	752
GW02	5/18/10	-	**332**	319	12.8	258
CDPHE WQCC Reg 41			**5**	**560**	**700**	**1,400**

NOTES:
ft btoc - feet below top of well casing
µg/L - micrograms per liter
< - indicates result is less than the stated laboratory method reporting limit
BOLD - indicates result exceeds the applicable standard
Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B
CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment-
Water Quality Control Commission Regulation 41 covering Basic Standards for Ground Water
NM - Not Monitored due to frozen groundwater

TABLE 2
GENERAL WATER QUALITY RESULTS
WT DURHAM #4
MOFFAT COUNTY, COLORADO
SHELL EXPLORATION AND PRODUCTION COMPANY

Well ID	Date	pH	Temp (C°)	Conductivity (µ-S)	DO (mg/L)	ORP (mV)	TDS (g/L)
MW01	9/16/10	6.93	13.30	2,331	2.80	-49.6	1.515
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.43	4.65	1,100	2.23	199.5	1.169
	8/24/11	6.73	13.40	3,724	2.02	228	3.243
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.35	2.58	2,403	2.17	-64.9	1.559
MW02	9/16/10	7.17	12.48	2,126	2.04	-89.4	2.4
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/3/11	7.27	5.05	1,396	3.37	198.6	1.190
	8/24/11	6.76	12.64	3,500	1.85	226.8	2.971
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.19	2.93	2,333	3.42	-59.4	1.517
MW03	9/16/10	6.42	13.88	3,341	2.41	-84.8	2.171
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.35	4.80	1,251	3.01	199.3	1.324
	8/24/11	6.75	11.91	1,313	2.56	227.4	1.144
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.31	2.13	3,176	3.07	-54.1	2.067
MW04	9/16/10	6.55	12.75	2,058	2.17	-75.5	1.338
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.35	5.45	1,042	2.49	199.1	1.081
	8/24/11	6.86	12.11	932	6.86	227.2	0.805
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.36	3.76	1,886	2.48	-38.8	1.226
MW05	9/16/10	6.56	15.70	2,581	1.56	-107.5	1.677
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.17	5.25	1,371	2.64	199.1	1.430
	8/24/11	6.71	17.17	3,011	4.21	228.1	3.061
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.30	3.49	2,552	2.56	-81.9	1.659
MW06	9/16/10	7.15	16.79	2,711	1.38	-102.3	2.4
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/3/11	7.19	5.88	1,436	2.47	199.0	1.213
	8/24/11	6.72	16.94	3,071	4.03	228.0	3.073
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.33	3.49	2,340	2.53	-70.1	1.519
MW07	9/16/10	6.42	13.22	2,456	1.34	-53.5	1.596
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.30	4.81	1,134	2.72	199.4	1.210
	8/24/11	6.74	13.80	3,813	1.94	228.3	3.153
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.40	2.74	2,386	2.71	-26.8	1.551
MW08	9/16/10	6.53	13.28	1,916	2.40	6.9	1.246
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.22	5.16	977	3.15	198.5	1.022
	8/24/11	6.78	13.35	3,158	2.02	228.6	2.638
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.48	3.11	2,027	3.05	4.4	1.318

TABLE 2
GENERAL WATER QUALITY RESULTS
WT DURHAM #4
MOFFAT COUNTY, COLORADO
SHELL EXPLORATION AND PRODUCTION COMPANY

Well ID	Date	pH	Temp (C°)	Conductivity (µ-S)	DO (mg/L)	ORP (mV)	TDS (g/L)
MW09	9/16/10	6.50	14.55	2,566	3.26	-49.0	1.668
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.14	4.88	1,361	2.97	200.4	1.437
	8/24/11	6.68	14.79	4,140	2.32	227.6	3.339
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.13	2.77	2,543	2.92	-37.8	1.653
MW10	9/16/10	6.56	12.85	2,017	1.90	38.6	1.311
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/2/11	7.53	5.01	995	2.17	197.8	1.061
	8/24/11	6.73	13.48	3,485	2.92	228.1	2.908
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.43	2.71	2,176	2.51	-13.1	1.414
MW11	9/16/10	6.99	13.29	2,488	2.2	7.3	1.618
	12/28/10	NM	NM	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM	NM	NM
	5/3/11	7.46	4.84	1,382	2.74	198.4	1.169
	8/24/11	6.72	14.46	3,313	2.23	229	3.262
	11/23/11	NM	NM	NM	NM	NM	NM
	3/28/12	7.42	2.77	2,215	2.86	11.5	1.440
CDPHE WQCC Reg 41		**NA**	**NA**	**NA**	**NA**	**NA**	**<1.25 x background**

NOTES:
C° - degrees celcius
µ-S - micro siemens
DO - dissolved Oxygen
mg/L - milligrams per liter
ORP - oxygen reduction potential
mV - milli volts
TDS - total dissolved solids
g/L - grams per liter
CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment - Water Quality Control Commission Regulation 41 covering Basic Standards for Ground Water
NA - Not Applicable
NM - Not Monitored due to frozen groundwater

TABLE 3
GEOCHEMICAL RESULTS
WT DURHAM #4
MOFFAT COUNTY, COLORADO
SHELL EXPLORATION AND PRODUCTION COMPANY

Well ID	Date	Manganese (µg/l)	Total Iron (µg/l)	Nitrate (mg/L)	Sulfate (mg/L)
MW02	9/16/10	356	3,310	<0.05	292
	12/28/10	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM
	5/3/11	360	2,190	<0.05	316
	8/24/11	409	1,070	<0.05	347
	11/23/11	NM	NM	NM	NM
	3/29/12	390	1,600	<0.23	400
MW06	9/16/10	829	3,560	<0.05	465
	12/28/10	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM
	5/3/11	942	644	<0.05	384
	8/24/11	926	1,590	0.185	411
	11/23/11	NM	NM	NM	NM
	3/29/12	840	2,500	<0.23	350
MW11	9/16/10	317	<200	0.119	376
	12/28/10	NM	NM	NM	NM
	2/15/11	NM	NM	NM	NM
	5/3/11	171	<200	<0.05	259
	8/24/11	277	<200	0.193	292
	11/23/11	NM	NM	NM	NM
	3/29/12	120	650	<0.23	290

NOTES:
µg/L - micrograms per liter
mg/L - milligrams per liter
< - indicates result is less than the stated laboratory method reporting limit
NM - Not Monitored due to frozen groundwater

ATTACHMENTS

ORIGINS LABORATORY, INC

April 09, 2012

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

Project Name - WT Durham #4 Project Number - MS1007

Attached are you analytical results for WT Durham #4 received by Origins Laboratory, Inc. March 30, 2012. This project is associated with Origins project number X203166-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	X203166-01	Water	March 29, 2012 12:00	03/30/2012 10:24
MW02	X203166-02	Water	March 29, 2012 12:10	03/30/2012 10:24
MW03	X203166-03	Water	March 29, 2012 12:20	03/30/2012 10:24
MW04	X203166-04	Water	March 29, 2012 12:30	03/30/2012 10:24
MW05	X203166-05	Water	March 29, 2012 12:40	03/30/2012 10:24
MW06	X203166-06	Water	March 29, 2012 12:50	03/30/2012 10:24
MW07	X203166-07	Water	March 29, 2012 13:00	03/30/2012 10:24
MW08	X203166-08	Water	March 29, 2012 13:10	03/30/2012 10:24
MW09	X203166-09	Water	March 29, 2012 13:20	03/30/2012 10:24
MW10	X203166-10	Water	March 29, 2012 13:30	03/30/2012 10:24
MW11	X203166-11	Water	March 29, 2012 13:40	03/30/2012 10:24

Origins Laboratory, Inc.

Noelle E Doyle, President

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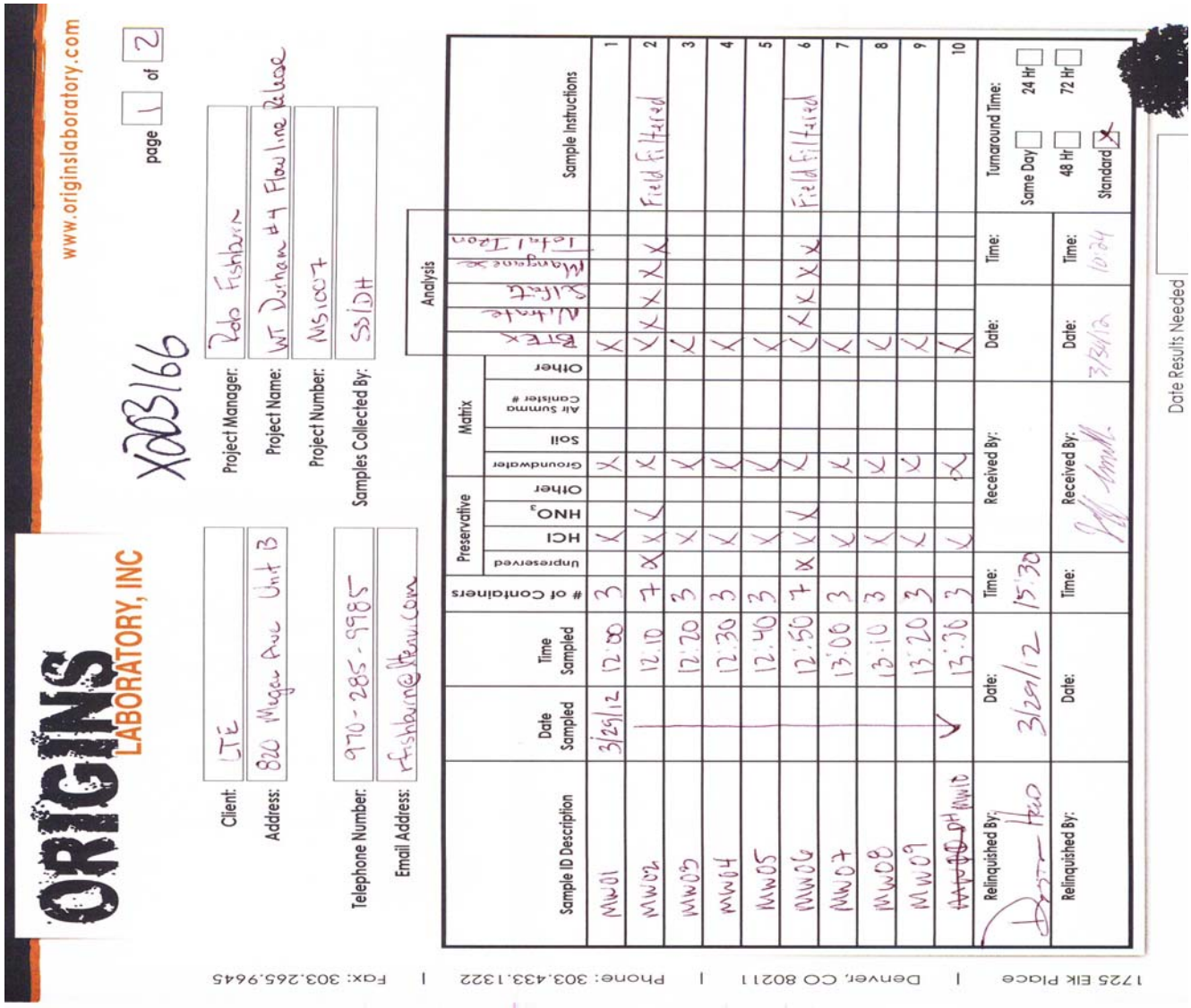
ORIGINS LABORATORY, INC

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4



Origins Laboratory, Inc.

Noelle E Doyle, President

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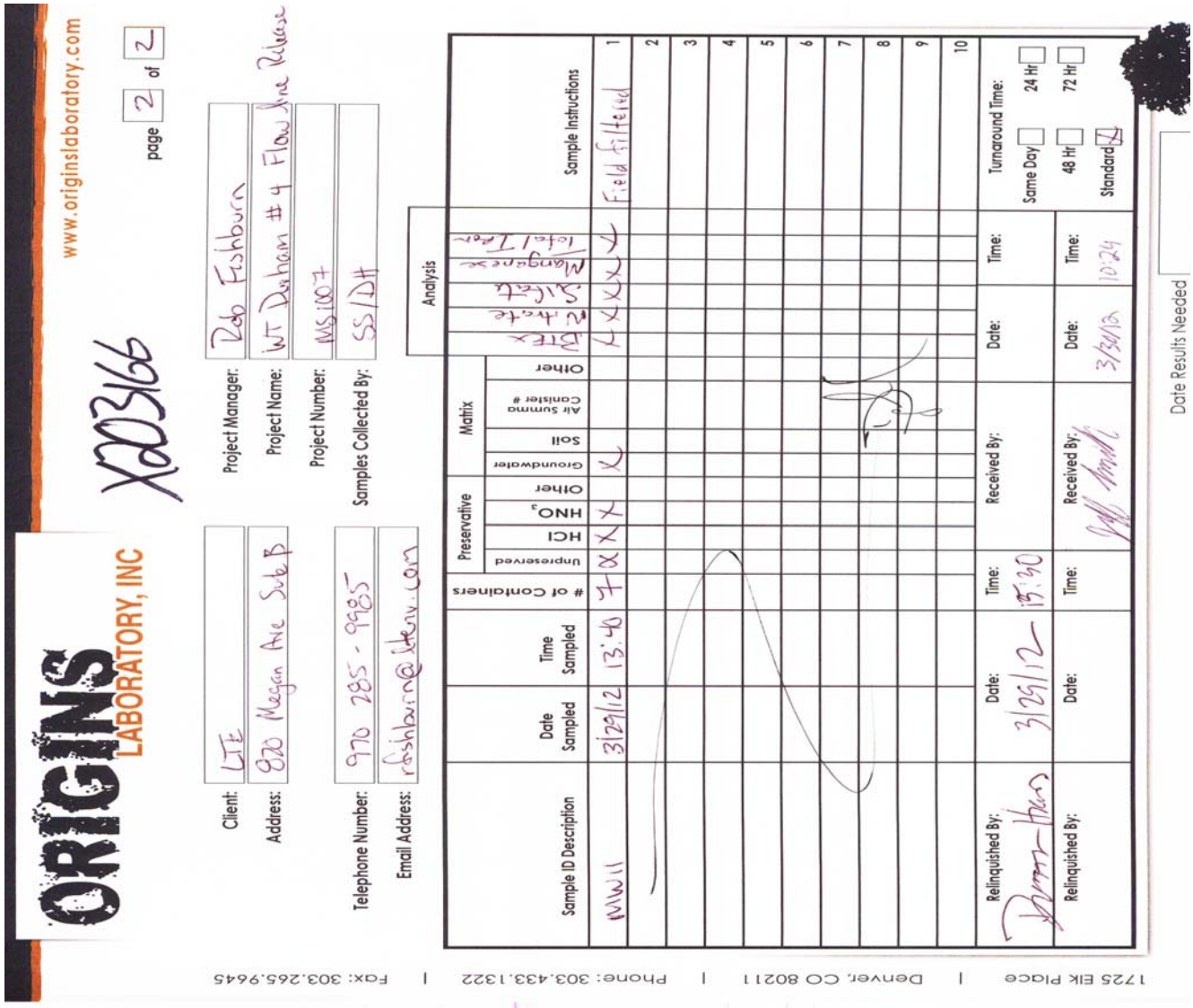
ORIGINS LABORATORY, INC

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4



Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X203166

Client: LTE

Client Project ID: WT Durham #4 Flow Line Release

Checklist Completed by: Jeff Smith

Shipped Via: FEDEX
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 3/30/12 10:35

Airbill #: NA

Matrix(s) Received: (Check all that apply): _____Soil/Solid ✓ Water _____Other:_____
(Describe)

Cooler Number/Temperature: 1 / 3.2 °C _____/_____ °C _____/_____ °C _____/_____ °C

Thermometer ID: IR01

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?	✓			
Is there ice present (document if blue ice is used)	✓			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?	✓			Nitrate Accutest
Is a chain-of-custody (COC) present and filled out completely[1]?	✓			
Does the COC agree with the number and type of sample bottles received[1]?	✓			
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation and was it checked [1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*	✓			HCL, HNO3
Additional Comments (if any): Nitrates are to be analyzed w/in 48hrs at Accotest.				

[1]*If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.*

Reviewed by (Project Manager)

04-01-12 1341
Date/Time Reviewed

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW01
3/29/2012 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

X203166-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*101 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*108 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW02
3/29/2012 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
X203166-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*99.2 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*110 %*	*70-130*			"	"	"	

Dissolved Metals by SW6020

Manganese	390	1	ug/L	1	97190	04/04/2012	04/04/2012	

Sulfate by E300.0

Sulfate	400	1	mg/L	1	97253	04/06/2012	04/05/2012	

Total Metals by SW6020

Iron	1600	100	ug/L	1	97161	04/03/2012	04/03/2012	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW03
3/29/2012 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

X203166-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*119 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*100 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*107 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW04
3/29/2012 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.								
X203166-04 (Water)								
BTEX by EPA 8260C								
Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*101 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*105 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW05
3/29/2012 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

X203166-05 (Water)

BTEX by EPA 8260C

Benzene	22.2	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*99.0 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*107 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW06
3/29/2012 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc. X203166-06 (Water)								
BTEX by EPA 8260C								
Benzene	92.9	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	04/06/2012	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*120 %*	*70-130*			"	"	*04/05/2012*	
Surrogate: Toluene-d8	*101 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*109 %*	*70-130*			"	"	"	
Dissolved Metals by SW6020								
Manganese	840	10	ug/L	10	97190	04/04/2012	04/05/2012	
Sulfate by E300.0								
Sulfate	350	1	mg/L	1	97253	04/06/2012	04/05/2012	
Total Metals by SW6020								
Iron	2500	100	ug/L	1	97161	04/03/2012	04/03/2012	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW07
3/29/2012 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.								
X203166-07 (Water)								
BTEX by EPA 8260C								
Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*102 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*107 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW08
3/29/2012 1:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.								
X203166-08 (Water)								
BTEX by EPA 8260C								
Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*122 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*101 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*107 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW09
3/29/2012 1:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

X203166-09 (Water)

BTEX by EPA 8260C

Benzene	2.03	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*122 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*100 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*106 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW10
3/29/2012 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.								
X203166-10 (Water)								
BTEX by EPA 8260C								
Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*122 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*102 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*107 %*	*70-130*			"	"	"	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

MW11
3/29/2012 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc. X203166-11 (Water)								
BTEX by EPA 8260C								
Benzene	ND	1.0	ug/L	1	2D03001	04/03/2012	04/05/2012	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*99.8 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*108 %*	*70-130*			"	"	"	
Dissolved Metals by SW6020								
Manganese	120	1	ug/L	1	97190	04/04/2012	04/04/2012	
Sulfate by E300.0								
Sulfate	290	1	mg/L	1	97253	04/06/2012	04/05/2012	
Total Metals by SW6020								
Iron	650	100	ug/L	1	97161	04/03/2012	04/03/2012	

Origins Laboratory, Inc.

Noelle E Doyle, President

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

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
Blank (2D03001-BLK1)						Prepared: 04/03/2012 Analyzed: 04/04/2012				
Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	*75*		"	*62.5*		*120*	*70-130*			
Surrogate: Toluene-d8	*63*		"	*62.5*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*68*		"	*62.5*		*109*	*70-130*			

Origins Laboratory, Inc.

Noelle E Doyle, President

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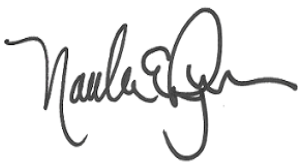
LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
Blank (2D03001-BLK2)						Prepared: 04/03/2012 Analyzed: 04/04/2012				
Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	*75*		"	*62.5*		*120*	*70-130*			
Surrogate: Toluene-d8	*62*		"	*62.5*		*99.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*66*		"	*62.5*		*106*	*70-130*			

Origins Laboratory, Inc.



Noelle E Doyle, President

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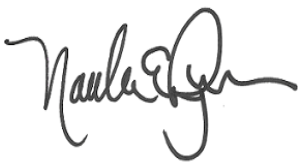
LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
LCS (2D03001-BS1)					Prepared: 04/03/2012 Analyzed: 04/04/2012					
Benzene	92.4	1.0	ug/L	100		92.4	70-130			
Toluene	90.1	1.0	"	100		90.1	70-130			
Ethylbenzene	93.2	1.0	"	100		93.2	70-130			
m,p-Xylene	193	2.0	"	200		96.3	70-130			
o-Xylene	92.6	1.0	"	100		92.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	*74*		"	*62.5*		*118*	*70-130*			
Surrogate: Toluene-d8	*64*		"	*62.5*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*68*		"	*62.5*		*108*	*70-130*			

Origins Laboratory, Inc.



Noelle E Doyle, President

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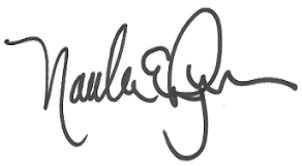
LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
LCS (2D03001-BS2)					Prepared: 04/03/2012 Analyzed: 04/04/2012					
Benzene	98.2	1.0	ug/L	100		98.2	70-130			
Toluene	94.2	1.0	"	100		94.2	70-130			
Ethylbenzene	96.2	1.0	"	100		96.2	70-130			
m,p-Xylene	200	2.0	"	200		100	70-130			
o-Xylene	97.8	1.0	"	100		97.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	*74*		"	*62.5*		*118*	*70-130*			
Surrogate: Toluene-d8	*64*		"	*62.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*68*		"	*62.5*		*109*	*70-130*			

Origins Laboratory, Inc.



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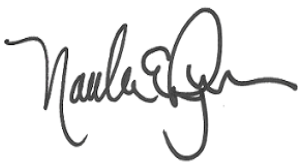
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
Matrix Spike (2D03001-MS1)		Source: X203166-01			Prepared: 04/03/2012 Analyzed: 04/04/2012					
Benzene	102	1.0	ug/L	100	ND	102	70-130			
Toluene	98.0	1.0	"	100	ND	98.0	70-130			
Ethylbenzene	99.4	1.0	"	100	ND	99.4	70-130			
m,p-Xylene	202	2.0	"	200	ND	101	70-130			
o-Xylene	97.2	1.0	"	100	ND	97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	*75*		"	*62.5*		*120*	*70-130*			
Surrogate: Toluene-d8	*64*		"	*62.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*67*		"	*62.5*		*107*	*70-130*			

Origins Laboratory, Inc.



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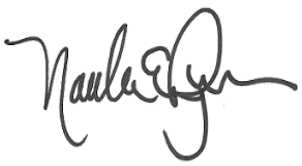
Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
Matrix Spike (2D03001-MS2)		Source: X204010-02			Prepared: 04/03/2012 Analyzed: 04/04/2012					
Benzene	97.5	1.0	ug/L	100	ND	97.5	70-130			
Toluene	90.1	1.0	"	100	ND	90.1	70-130			
Ethylbenzene	92.8	1.0	"	100	ND	92.8	70-130			
m,p-Xylene	181	2.0	"	200	ND	90.4	70-130			
o-Xylene	88.1	1.0	"	100	ND	88.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	*73*		"	*62.5*		*117*	*70-130*			
Surrogate: Toluene-d8	*63*		"	*62.5*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*68*		"	*62.5*		*109*	*70-130*			

Origins Laboratory, Inc.



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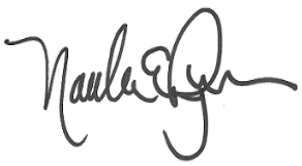
Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
Matrix Spike Dup (2D03001-MSD1)		Source: X203166-01			Prepared: 04/03/2012 Analyzed: 04/04/2012					
Benzene	99.7	1.0	ug/L	100	ND	99.7	70-130	2.12	20	
Toluene	92.6	1.0	"	100	ND	92.6	70-130	5.65	20	
Ethylbenzene	94.5	1.0	"	100	ND	94.5	70-130	5.10	20	
m,p-Xylene	185	2.0	"	200	ND	92.6	70-130	8.50	20	
o-Xylene	90.6	1.0	"	100	ND	90.6	70-130	7.06	20	
Surrogate: 1,2-Dichloroethane-d4	*74*		"	*62.5*		*119*	*70-130*			
Surrogate: Toluene-d8	*63*		"	*62.5*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*69*		"	*62.5*		*110*	*70-130*			

Origins Laboratory, Inc.



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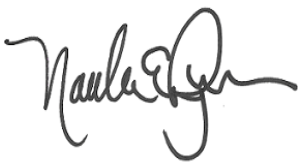
Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2D03001 - EPA 5030B (Water)										
Matrix Spike Dup (2D03001-MSD2)		Source: X204010-02			Prepared: 04/03/2012 Analyzed: 04/04/2012					
Benzene	96.3	1.0	ug/L	100	ND	96.3	70-130	1.26	20	
Toluene	89.7	1.0	"	100	ND	89.7	70-130	0.400	20	
Ethylbenzene	91.1	1.0	"	100	ND	91.1	70-130	1.85	20	
m,p-Xylene	179	2.0	"	200	ND	89.5	70-130	1.01	20	
o-Xylene	88.1	1.0	"	100	ND	88.1	70-130	0.0908	20	
Surrogate: 1,2-Dichloroethane-d4	*74*		"	*62.5*		*118*	*70-130*			
Surrogate: Toluene-d8	*63*		"	*62.5*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*68*		"	*62.5*		*108*	*70-130*			

Origins Laboratory, Inc.



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Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

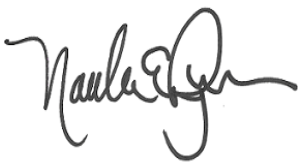
Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

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

Dissolved Metals by SW6020 - Quality Control
PHASE

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 97190 - SW3005A										
MS (12040208-001 S)		Source: 12040208-001 S			Prepared: 04/04/2012 Analyzed: 04/04/2012					
Manganese	424.6	1	ug/L	40	387.8	92	75-125		25	
MSD (12040208-001 SD)		Source: 12040208-001 SD			Prepared: 04/04/2012 Analyzed: 04/04/2012					
Manganese	440.4	1	ug/L	40	387.8	132	75-125	4	25	
LCS (40961-1-BKS)		Source: 40961-1-BKS			Prepared: 04/04/2012 Analyzed: 04/04/2012					
Manganese	38.77	1	ug/L	40	<1.000	97	80-120		20	
BLANK (40961-1-BLK)		Source: 40961-1-BLK			Prepared: 04/04/2012 Analyzed: 04/04/2012					
Manganese	ND	1	ug/L	40			-		25	

Origins Laboratory, Inc.



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Arvada CO 80003

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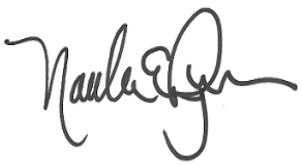
Project Number: MS1007
Project: WT Durham #4

Total Metals by SW6020 - Quality Control
PHASE

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 97161 - SW3010A										
MS (12040208-001 S)		Source: 12040208-001 S			Prepared: 04/03/2012 Analyzed: 04/03/2012					
Iron	2115	100	ug/L	400	1622	123	75-125		25	
MSD (12040208-001 SD)		Source: 12040208-001 SD			Prepared: 04/03/2012 Analyzed: 04/03/2012					
Iron	2003	100	ug/L	400	1622	95	75-125	5	25	
LCS (40946-1-BKS)		Source: 40946-1-BKS			Prepared: 04/03/2012 Analyzed: 04/03/2012					
Iron	380.1	100	ug/L	400	<100	95	80-120		20	
BLANK (40946-1-BLK)		Source: 40946-1-BLK			Prepared: 04/03/2012 Analyzed: 04/03/2012					
Iron	ND	100	ug/L	400			-		25	

Origins Laboratory, Inc.



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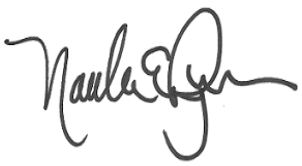
4600 West 60th Avenue
Arvada CO 80003

Rob Fishburn
Project Number: MS1007
Project: WT Durham #4

Notes and Definitions

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

Origins Laboratory, Inc.



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Mountain States ACCUTEST LABORATORIES

04/09/12

Technical Report for

Origins Laboratory

X203166

Accutest Job Number: D33266

Sampling Date: 03/29/12

Report to:

Origins Laboratory
1725 Elk Place
Denver, CO 80211
ndoyle@oelabinc.com

ATTN: Noelle Doyle

Total number of pages in report: **15**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Brad Madadian
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW), UT (NELAP CO00049), TX (T104704511-12-1)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5

Table of Contents

-1-

Sample Summary

Origins Laboratory

X203166

Job No: D33266

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D33266-1	03/29/12	12:10		03/30/12	AQ	Ground Water	X203166-02
D33266-2	03/29/12	12:50		03/30/12	AQ	Ground Water	X203166-06
D33266-3	03/29/12	13:40		03/30/12	AQ	Ground Water	X203166-11

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Origins Laboratory	**Job No**	D33266
Site:	X203166	**Report Date**	4/9/2012 5:06:24 PM

On 03/30/2012, 3 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5.4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D33266 was assigned to the project. The lab sample IDs, client sample IDs, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056

Matrix AQ **Batch ID:** GP6864

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D33238-2MS, D33238-2MSD were used as the QC samples for the Nitrogen, Nitrate analysis.
- All samples for Nitrogen, Nitrate: Elevated detection limit due to matrix interference.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	X203166-02		
Lab Sample ID:	D33266-1	**Date Sampled:**	03/29/12
Matrix:	AQ - Ground Water	**Date Received:**	03/30/12
		Percent Solids:	n/a
Project:	X203166		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	< 0.23	0.23	mg/l	5	03/30/12 17:12	GH	EPA 300/SW846 9056

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	X203166-06		
Lab Sample ID:	D33266-2	**Date Sampled:**	03/29/12
Matrix:	AQ - Ground Water	**Date Received:**	03/30/12
		Percent Solids:	n/a
Project:	X203166		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	< 0.23	0.23	mg/l	5	03/30/12 17:23	GH	EPA 300/SW846 9056

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	X203166-11		
Lab Sample ID:	D33266-3	**Date Sampled:**	03/29/12
Matrix:	AQ - Ground Water	**Date Received:**	03/30/12
		Percent Solids:	n/a
Project:	X203166		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	< 0.23	0.23	mg/l	5	03/30/12 17:35	GH	EPA 300/SW846 9056

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ORIGINS LABORATORY, INC
1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645
www.originslaboratory.com

D33266

page 1 of 1

Client: ORIGINS
Address: 1725 ELK PLACE DENVER CO
Telephone Number: 303 433 - 1322
Email Address: NDOYLE@ORIGINSLAB.COM

Project Manager: NOELLE DOYLE
Project Name: X203166e
Project Number: N/A
Samples Collected By: N/A

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative: Unpreserved	Preservative: HCl	Preservative: HNO_3	Preservative: Other	Matrix: Groundwater	Matrix: Soil	Matrix: Air Summa Canister #	Matrix: Other	Analysis: NITRATE	Sample Instructions	
X203166e-02	3/29/12	12:10	1	X				X				X	01	1
X203166e-06	3/29/12	12:50	1	X				X				X	02	2
X203166a-11	3/29/12	13:40	1	X				X				X	03	3
														4
														5
														6
														7
														8
														9
														10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
	3/30/12	1515		3/30/12	1515	Same Day ☐ 24 Hr ☐
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	48 Hr ☐ 72 Hr ☐
						Standard ☒

ON ICE °C 5.4

Date Results Needed

D33266: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D33266 **Client:** ORIGINS **Immediate Client Services Action Required:** No

Date / Time Received: 3/30/2012 3:15:00 PM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: ORIGINS **Airbill #'s:** HD

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

D33266: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D33266
Account: ORIGLCOD - Origins Laboratory
Project: X203166

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Bromide	GP6864/GN14323	0.20	0.0	mg/l	20	20.1	100.5	90-110%
Chloride	GP6864/GN14323	0.50	0.0	mg/l	20	19.9	99.5	90-110%
Fluoride	GP6864/GN14323	0.10	0.0	mg/l	10	9.18	91.8	90-110%
Nitrogen, Nitrate	GP6864/GN14323	0.045	0.0	mg/l	4.52	4.28	94.7	90-110%
Nitrogen, Nitrite	GP6864/GN14323	0.010	0.0	mg/l	6.09	6.01	98.7	90-110%
Sulfate	GP6864/GN14323	0.50	0.0	mg/l	30	29.2	97.3	90-110%

Associated Samples:
Batch GP6864: D33266-1, D33266-2, D33266-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D33266
Account: ORIGLCOD - Origins Laboratory
Project: X203166

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Bromide	GP6864/GN14323	D33238-2	mg/l	0.0	5	5.2	104.0	80-120%
Chloride	GP6864/GN14323	D33238-2	mg/l	12.5	20	33.6	105.5	80-120%
Fluoride	GP6864/GN14323	D33238-2	mg/l	1.5	5	6.2	94.0	80-120%
Nitrogen, Nitrate	GP6864/GN14323	D33238-2	mg/l	5.6	11.3	16.3	94.7	80-120%
Nitrogen, Nitrite	GP6864/GN14323	D33238-2	mg/l	0.0	0.609	0.59	96.9	80-120%
Sulfate	GP6864/GN14323	D33238-2	mg/l	483	200	667	92.0	80-120%

Associated Samples:
Batch GP6864: D33266-1, D33266-2, D33266-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D33266
Account: ORIGLCOD - Origins Laboratory
Project: X203166

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Bromide	GP6864/GN14323	D33238-2	mg/l	0.0	5	5.2	0.0	20%
Chloride	GP6864/GN14323	D33238-2	mg/l	12.5	20	33.5	0.3	20%
Fluoride	GP6864/GN14323	D33238-2	mg/l	1.5	5	6.2	0.0	20%
Nitrogen, Nitrate	GP6864/GN14323	D33238-2	mg/l	5.6	11.3	16.3	0.0	20%
Nitrogen, Nitrite	GP6864/GN14323	D33238-2	mg/l	0.0	0.609	0.59	0.0	20%
Sulfate	GP6864/GN14323	D33238-2	mg/l	483	200	667	0.0	20%

Associated Samples:
Batch GP6864: D33266-1, D33266-2, D33266-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits