

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY
Document 2314239
Received 3/12/2015
REM 8952

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

Spill or Release Plug & Abandon Central Facility Closure Other (describe): _____

OGCC Operator Number: _____	Contact Name and Telephone: _____
Name of Operator: _____	_____
Address: _____	No: _____
City: _____ State: _____ Zip: _____	Fax: _____
API Number: _____	County: _____
Facility Name: _____	Facility Number: _____
Well Name: _____	Well Number: _____
Location: (QtrQtr, Sec, Twp, Rng, Meridian): _____ Latitude: _____ Longitude: _____	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): _____

Site Conditions: Is location within a sensitive area (according to Rule 901e)? Y N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): _____

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: _____

Potential receptors (water wells within 1/4 mi, surface waters, etc.): _____

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
Soils	_____	_____
Vegetation	_____	_____
Groundwater	_____	_____
Surface Water	_____	_____

REMEDIALTION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Describe how source is to be removed:

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? Y N If yes, describe:

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____ Date Site Investigation Completed: _____ Date Remediation Plan Submitted: _____
Remediation Start Date: _____ Anticipated Completion Date: _____ Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: _____ Signed: _____

Title: _____ Date: _____

OGCC Approved: _____ Title: **EPS** Date: **3/12/2015**



June 20, 2014

Mr. Raul Sanchez
Base Construction Foreman
Noble Energy, Inc.
804 Grand Avenue
Platteville, Colorado 80651

Mr. Jacob Evans
Senior Environmental Specialist
Noble Energy, Inc.
1625 Broadway, Suite 2200
Denver, Colorado 80202

RE: **Remediation Activity Summary**
Lorenz UPRR 42-27 1, 41-27 3 Tank Battery
Weld County, Colorado
COGCC Tracking #400611726

Dear Mr. Sanchez and Mr. Evans:

LT Environmental, Inc. (LTE), under the direction of Noble Energy, Inc. (Noble), conducted environmental remediation activities and confirmation soil sampling at the Lorenz UPRR 42-27 1, 41-27 3 Tank Battery (Site). This correspondence describes the remediation work conducted on April 29 through May 7, 2014. The legal site description is the northeast quarter of the northeast quarter of Section 27, Township 4 North, Range 66 West, 6th Principal Meridian. The Site is located approximately 0.10 miles west of County Road 42 and County Road 33 in Weld County, Colorado. The Site Location Map is provided as Figure 1.

Excavation Scope of Work

LTE personnel, under the direction of Noble, were on site to direct excavation activities, field screen excavated soil, collect confirmation soil samples, document site work, and provide health and safety oversight on April 29 through May 7, 2014. The contractor operating the excavation equipment was BG Services, LLC of Fort Lupton, Colorado. The total extent of the excavation was approximately 50 feet north-south by 70 feet east-west to a total depth of approximately 15 feet below ground surface (bgs). The Excavation Site Map is provided as Figure 2. The soil consisted primarily of clayey sand from the surface to total depth. Staining was observed throughout the excavation from 4 feet bgs to total depth.

Excavated soil was field screened for volatile organic compounds using a photo-ionization detector (PID). The PID readings ranged from 3.4 parts per million (ppm) at SS09 at 13 feet bgs. (SS09@13') to 937.0 ppm at SS02@13'. The excavation soil field screening results are presented on Figure 3 and summarized in Table 1. Groundwater was encountered in the excavation at approximately 15 feet bgs. Following the completion of source removal activities, 600 pounds of an activated carbon-based groundwater amendment (BOS 200®) was applied to the floor of the excavation to remediate any residual petroleum hydrocarbons impacts. Approximately 2,530 cubic

yards of impacted soil was removed from the excavation and transported to the Waste Management Buffalo Ridge Landfill in Keenesburg, Colorado, for final disposal.

Confirmation Soil Sampling

LTE personnel, under the direction of Noble, collected confirmation soil samples from the excavation sidewalls once PID readings indicated that the extent of petroleum hydrocarbon impacted soil had been removed. Eleven discrete confirmation soil samples were collected, placed on ice, and delivered with a complete chain of custody form to Origins Laboratory, Inc. (Origins) of Denver, Colorado, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene, and total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) by United States Environmental Protection Agency (EPA) Method 8260C and TPH as diesel range organics (DRO) by EPA Method 8015C.

Excavation Groundwater Sampling

A groundwater grab sample (GW01) was collected from the excavation. The groundwater sample was collected, placed on ice, and delivered with a complete chain of custody form to Origins for analysis of BTEX by EPA Method 8260C.

Excavation Soil Analytical Results

The Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 standards for BTEX, naphthalene, and TPH in soil are 0.17 milligrams per kilogram (mg/kg), 85 mg/kg, 100 mg/kg, 175 mg/kg, 23 mg/kg, and 500 mg/kg, respectively. Laboratory soil analytical results indicate that soil samples SS03@13', SS11@13', SS13@13', and SS18@13' exceed the COGCC Table 910-1 standard for benzene at concentrations of 59.3 mg/kg, 0.7 mg/kg, 29.2 mg/kg, and 5.6 mg/kg, respectively. Soil samples SS03@13' and SS13@13' exceed the COGCC Table 910-1 standard for toluene at concentrations of 240 mg/kg and 165 mg/kg, respectively. Soil samples SS03@13' and SS13@13' exceed the COGCC Table 910-1 standard for total xylenes at concentrations of 204 mg/kg and 203 mg/kg, respectively. Soil sample SS03@13', SS11@13', SS13@13', and SS18@13' exceed the COGCC Table 910-1 standard for TPH at concentrations of 5,682 mg/kg, 590.4 mg/kg, 4,882 mg/kg, and 684 mg/kg, respectively. All remaining soil analytical results are in compliance with applicable COGCC Table 910-1 standards. Laboratory soil analytical results are presented on Figure 4 and summarized in Table 2. The laboratory analytical reports are attached.

After receiving the analytical results for SS03@13' (south wall), the excavation was extended farther south. New confirmation soil samples were collected after further excavation was completed to the south. The new confirmation soil samples from the southern wall (SS06@13' and SS05@13') were in compliance with applicable COGCC Table 910-1 standards. Site obstructions, including an electric power line and County Road 42 impeded excavation activities to the north. A high pressure gas line impeded excavation activities to the west. Therefore, impacted soil in the vicinity of SS11@13', SS13@13', and SS18@13' was left in place to be remediated through alternate means.

Excavation Groundwater Analytical Results

The Colorado Department of Public Health and Environment-Water Quality Control Commission has established Regulation 41-The Basic Standards for Ground Water (WQCC Reg 41) for BTEX at 5.0 micrograms per liter ($\mu\text{g/L}$), 560 $\mu\text{g/L}$, 700 $\mu\text{g/L}$, and 1,400 $\mu\text{g/L}$, respectively. Groundwater laboratory analytical results indicate grab sample GW01 exceeded the WQCC Reg 41 standard for benzene and toluene at concentrations of 641 $\mu\text{g/L}$ and 1,270 $\mu\text{g/L}$, respectively. Groundwater analytical results are presented on Figure 5 and summarized in Table 3. The laboratory analytical reports are attached.

Summary

LTE, under the direction of Noble, conducted oversight of source removal of petroleum hydrocarbon impacted soil from the Site and conducted confirmation soil sampling activities. Per the excavation activities conducted and laboratory soil analytical results, the impacted soil exceeding applicable COGCC Table 910-1 standards was removed where accessible, and a groundwater amendment has been applied to the saturated interval. Approximately 2,530 cubic yards of petroleum hydrocarbon impacted soil was removed from the excavation and transported to the Waste Management Buffalo Ridge Landfill in Keenesburg, Colorado, for final disposal. Groundwater was encountered in the excavation at 15 feet bgs. Groundwater analytical results from the sample collected from the open excavation exceeded the WQCC Reg 41 standard for benzene and toluene; therefore, a groundwater monitoring program will be implemented once monitoring wells are in place. Monitoring wells will be monitored on a quarterly basis until laboratory analytical results reflect four consecutive quarters in compliance with applicable WQCC Reg 41 standards. Further remediation efforts will be discussed in future reports.

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.



Chris Roy
Project Manager



Steve Kahn, P.E.
Principal

Attachments

Figure 1	Site Location Map
Figure 2	Excavation Site Map
Figure 3	Excavation Soil Field Screening Results
Figure 4	Excavation Soil Analytical Results
Figure 5	Excavation Groundwater Analytical Results
Table 1	Excavation Soil Field Screening Results
Table 2	Excavation Soil Analytical Results
Table 3	Excavation Groundwater Results
Attachment	Laboratory Analytical Reports

FIGURES

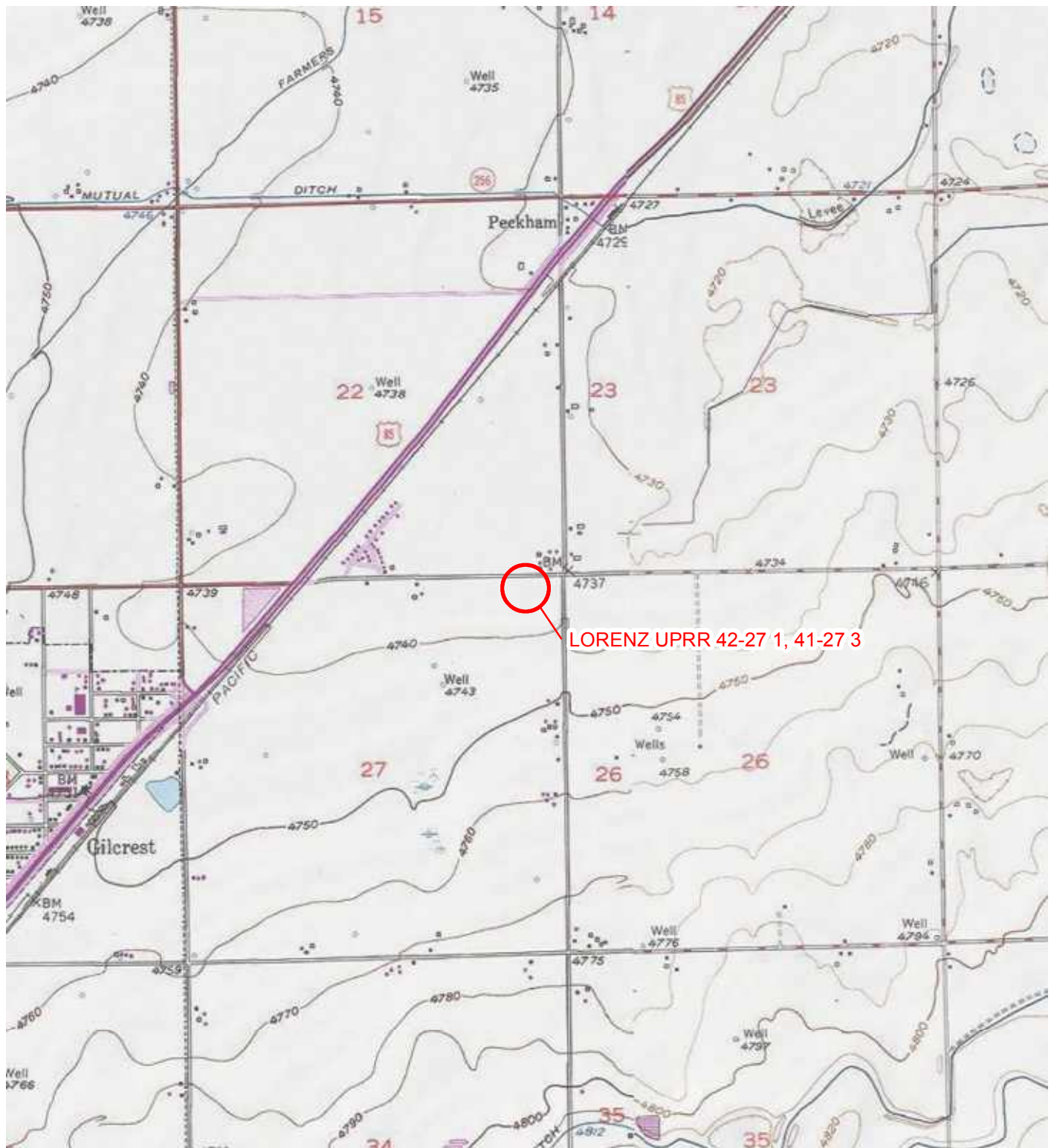


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

0 2,000 4,000
Feet

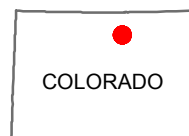


FIGURE 1
SITE LOCATION MAP
LORENZ UPRR 42-27 1, 41-27 3
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.





IMAGE COURTESY OF ESRI

LEGEND

- CONFIRMATION LABORATORY SOIL SAMPLE
- FIELD SCREENING SOIL SAMPLE
- ⊕ GROUNDWATER SAMPLE
- SOIL VAPOR EXTRACTION WELL
- UNDERGROUND UTILITIES
- OE — OVERHEAD POWER LINE
- - - EXCAVATION EXTENT

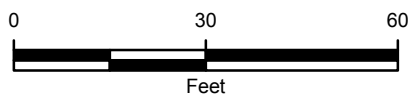


FIGURE 2
EXCAVATION SITE MAP
LORENZ UPRR 42-27 1, 41-27 3
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.



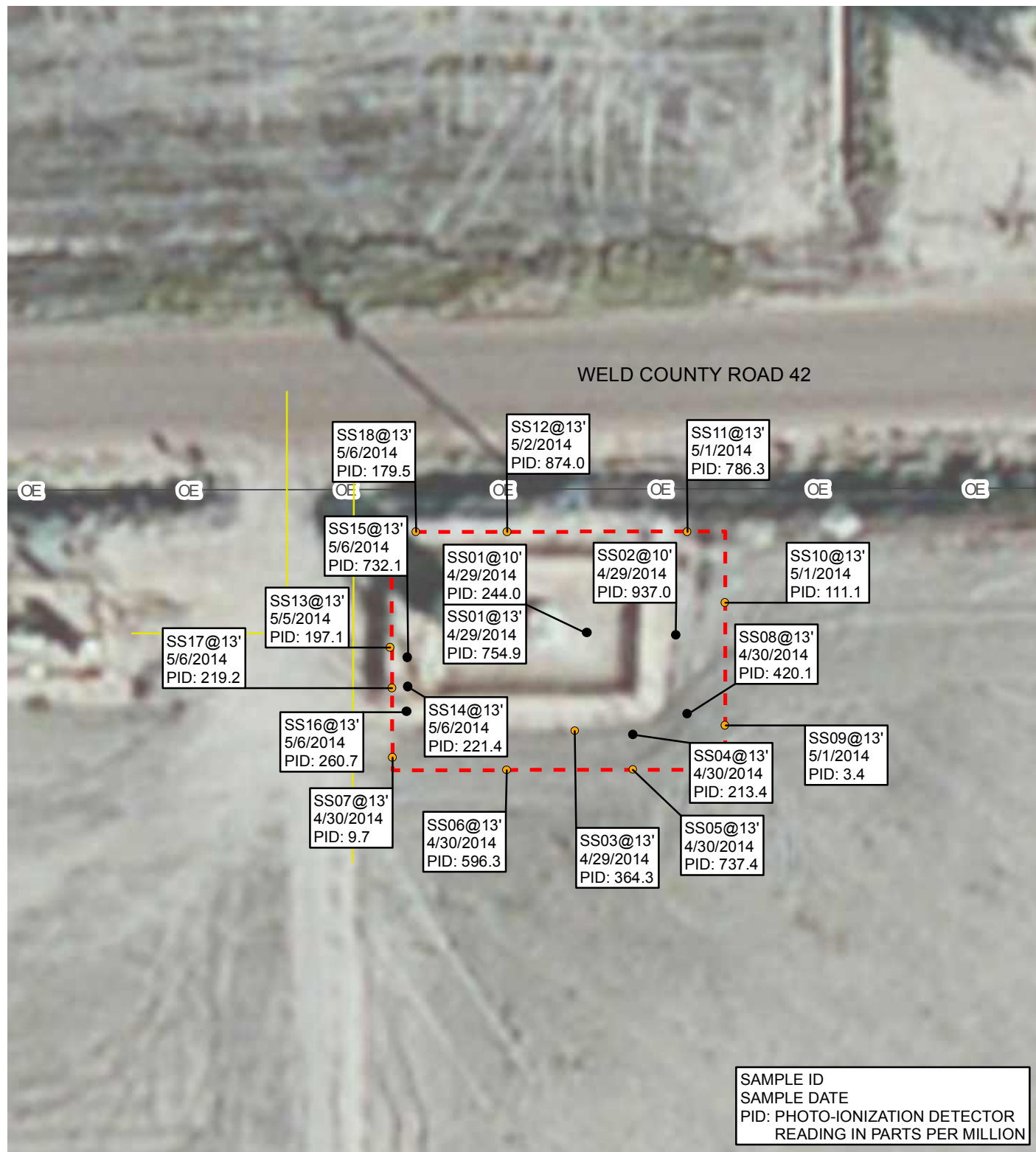


IMAGE COURTESY OF ESRI

LEGEND

- CONFIRMATION LABORATORY SOIL SAMPLE
- FIELD SCREENING SOIL SAMPLE
- UNDERGROUND UTILITIES
- OE — OVERHEAD POWER LINE
- [] EXCAVATION EXTENT

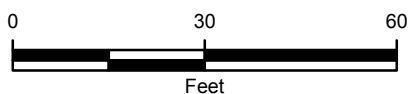
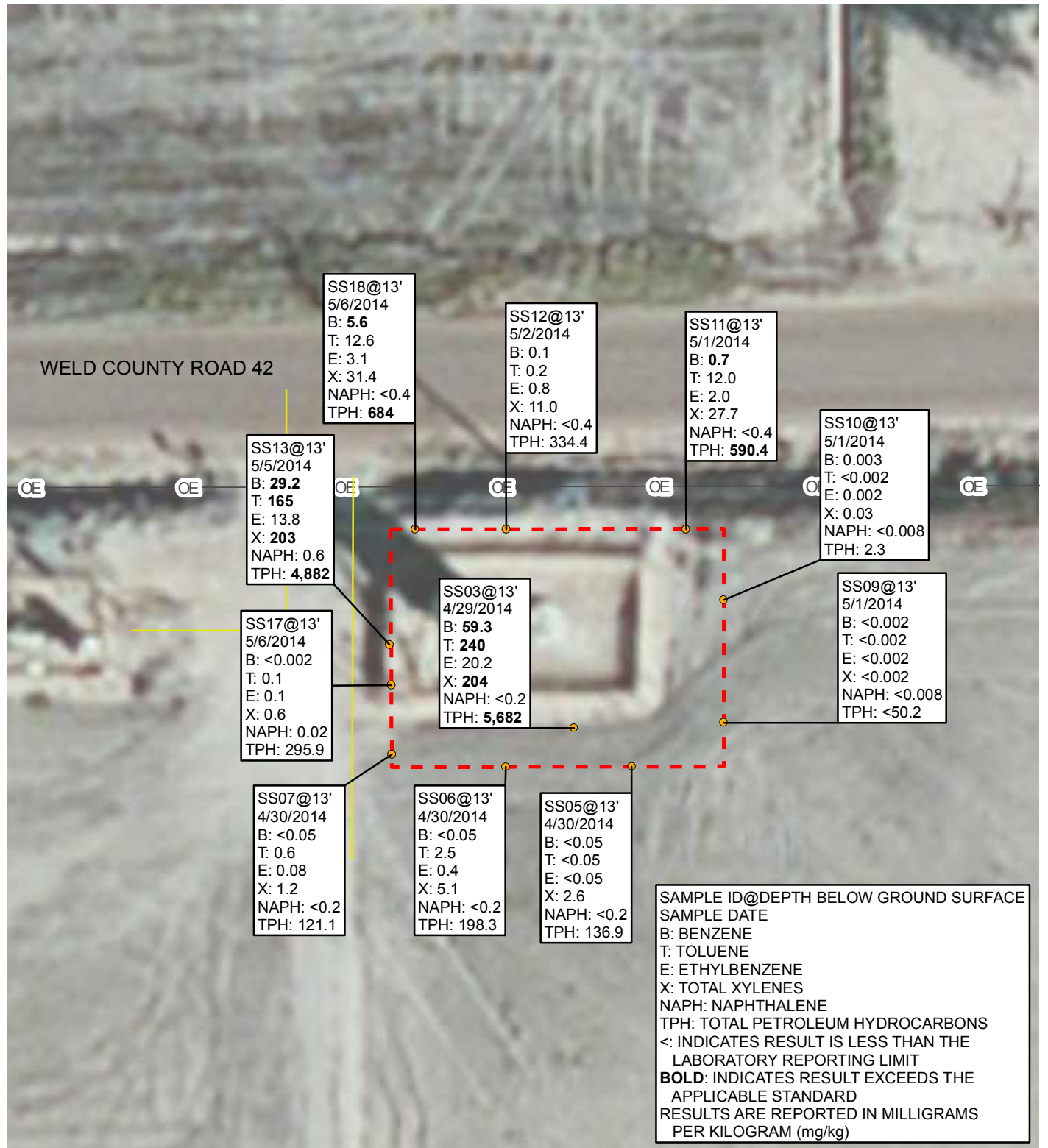


FIGURE 3
EXCAVATION SOIL FIELD SCREENING RESULTS
LORENZ UPRR 42-27 1, 41-27 3
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.





LEGEND

- CONFIRMATION LABORATORY SOIL SAMPLE
- UNDERGROUND UTILITIES
- OE — OVERHEAD POWER LINE
- - - EXCAVATION EXTENT

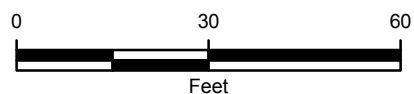


FIGURE 4
EXCAVATION SOIL ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.





IMAGE COURTESY OF ESRI

LEGEND

- CONFIRMATION LABORATORY SOIL SAMPLE
- ⊕ GROUNDWATER SAMPLE
- UNDERGROUND UTILITIES
- OE— OVERHEAD POWER LINE
- - - EXCAVATION EXTENT

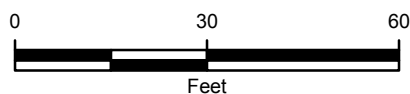


FIGURE 5
EXCAVATION GROUNDWATER ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.



TABLES

TABLE 1

**EXCAVATION SOIL FIELD SCREENING RESULTS
LORENZ UPRR 41-27 3, 42-27 1 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Soil Sample	Date	PID Reading (ppm)
SS01@10'	4/29/2014	244.0
SS01@13'	4/29/2014	754.9
SS02@13'	4/29/2014	937.0
SS03@13'	4/29/2014	364.3
SS04@13'	4/30/2014	213.4
SS05@13'	4/30/2014	737.4
SS06@13'	4/30/2014	596.3
SS07@13'	4/30/2014	9.7
SS08@13'	4/30/2014	420.1
SS09@13'	5/1/2014	3.4
SS10@13'	5/1/2014	111.1
SS11@13'	5/1/2014	786.3
SS12@13'	5/2/2014	874.0
SS13@13'	5/5/2014	197.1
SS14@13'	5/6/2014	221.4
SS15@13'	5/6/2014	732.1
SS16@13'	5/6/2014	260.7
SS17@13'	5/6/2014	219.2
SS18@13'	5/6/2014	179.5

NOTES:

PID - photo-ionization detector

ppm - parts per million

TABLE 2

**EXCAVATION SOIL ANALYTICAL RESULTS
LORENZ UPRR 42-27 1 , 41-27 3 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Soil Sample	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)
SS03@13'	4/29/2014	59.3	240	20.2	204	<0.2	4,760	922	5,682
SS05@13'	4/30/2014	<0.05	<0.05	<0.05	2.6	<0.2	71.4	65.5	136.9
SS06@13'	4/30/2014	<0.05	2.5	0.4	5.1	<0.2	106	92.3	198.3
SS07@13'	4/30/2014	<0.05	0.6	0.08	1.2	<0.2	27.4	93.7	121.1
SS09@13'	5/1/2014	<0.002	<0.002	<0.002	<0.002	<0.008	<0.2	<50.0	<50.2
SS10@13'	5/1/2014	0.003	<0.002	0.002	0.03	<0.008	2.3	<50.0	2.3
SS11@13'	5/1/2014	0.7	12.0	2.0	27.7	<0.4	520	70.4	590.4
SS12@13'	5/2/2014	0.1	0.2	0.8	11.0	<0.4	244	90.4	334.4
SS13@13'	5/5/2014	29.2	165	13.8	203	0.6	4,020	862	4,882
SS17@13'	5/6/2014	<0.002	0.1	0.1	0.6	0.02	51.9	244	295.9
SS18@13'	5/6/2014	5.6	12.6	3.1	31.4	<0.4	684	<50.0	684
COGCC Table 910-1 Standard		0.17	85	100	175	23	--	--	500

NOTES:

COGCC - Colorado Oil and Gas Conservation Commission

DRO - diesel range organics analyzed by EPA Method 8015C

GRO - gasoline range organics analyzed by EPA Method 8260C

mg/kg - milligrams per kilogram

TPH - total petroleum hydrocarbons is the sum of GRO and DRO

< - indicates result is less than the stated laboratory method reporting limit

Benzene, toluene, ethylbenzene, and total xylenes, and naphthalene analyzed by EPA Method 8260C

TABLE 3

EXCAVATION GROUNDWATER ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Sample Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
GW01	4/30/2014	641	1,270	40.6	627
CDPHE WQCC Reg 41 Standard		5.0	560	700	1,400

NOTES:

µg/L - micrograms per liter

BOLD indicates result exceeds the applicable standard

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260C

CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment-Water Quality
Control Commission Regulation 41-The Basic Standards for Ground Water

ATTACHMENT
LABORATORY ANALYTICAL REPORTS



April 30, 2014

LT Environmental, Inc.

Chris Roy

4600 West 60th Avenue

Arvada

CO 80003

Project Name - Noble - Lorenz UPRR 42-271,41
273

Project Number - [none]

Attached are your analytical results for Noble - Lorenz UPRR 42-271,41 273 received by Origins Laboratory, Inc. April 29, 2014. This project is associated with Origins project number X404288-01.

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.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS03@13'	X404288-01	Soil	April 29, 2014 14:30	04/29/2014 17:30

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

www.originslaboratory.com page 1 of 1

ORIGINS LABORATORY, INC

Client: LTE Project Manager: Roy

Address: 4600 West 60th Ave Arvada Project Name: Lorenz UPRR 42-271, 41-273

Telephone Number: 303.433.9788 Project Number: 008314023

Email Address: jellison@ltell.com Samples Collected By: Smulson

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	Turnaround Time
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			
5503013	4/29/14	1130	1	X					X		X	600, 1000	24 Hr
											X	1000 concentration	48 Hr
													72 Hr
													Standard

Relinquished By: [Signature] Date: 4/29/14 Time: 1730

Relinquished By: [Signature] Date: 4/29/14 Time: 1730

Date Results Needed: _____

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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.

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X404298 Client: LTE
Client Project ID: _____
Checklist Completed by: MJ Shipped Via: H/D
(UPS, FedEx, and Delivered, Pick-up, etc.)
Date/time completed: 4/29 1732 Airbill #: _____
Matrix(s) Received: (Check all that apply): X Soil/Solid _____ Water _____ Other: _____
(Describe)
Cooler Number/Temperature: _____ / 15.4 °C _____ / _____ °C _____ / _____ °C
Thermometer ID: 7002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		X		Same Day
Is there ice present (document if blue ice is used)		X		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	X			
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	SOIL
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			X	SOIL
Additional Comments (if any):				

⁽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)

04-21-11 1816
Date/Time Reviewed

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.

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

SS03@13'

4/29/2014 2:30:00PM

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

Origins Laboratory, Inc.
X404288-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	922	50.0	mg/kg	1	4D29008	04/29/2014	04/29/2014
Surrogate: o-Terphenyl	85.5 %	59-131			"	"	"

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	4760	50.0	mg/kg	250	4D29007	04/29/2014	04/29/2014
Benzene	59.3	0.5	"	"	"	"	"
Toluene	240	10.0	"	5000	"	"	04/29/2014
Ethylbenzene	20.2	0.5	"	250	"	"	04/29/2014
Xylenes, total	204	0.5	"	"	"	"	"
Naphthalene	ND	2.0	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	0.00564 %	70-130			"	"	"
Surrogate: Toluene-d8	0.00572 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	0.00516 %	70-130			"	"	"

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

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 4D29007 - EPA 5030 (soil)										
Blank (4D29007-BLK1)					Prepared: 04/29/2014 Analyzed: 04/29/2014					
Gasoline Range Hydrocarbons	ND	0.2	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	1250000		0.00487	70-130			
Surrogate: Toluene-d8	60		"	1250000		0.00482	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	1250000		0.00479	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

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 4D29007 - EPA 5030 (soil)										
LCS (4D29007-BS1)					Prepared: 04/29/2014 Analyzed: 04/29/2014					
Benzene	0.1	0.002	mg/kg	0.100		112	70-130			
Toluene	0.1	0.002	"	0.100		104	70-130			
Ethylbenzene	0.1	0.002	"	0.100		100	70-130			
m,p-Xylene	0.2	0.004	"	0.200		105	70-130			
o-Xylene	0.1	0.002	"	0.100		106	70-130			
Naphthalene	0.1	0.008	"	0.100		97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	57		ug/kg	1250000		0.00456	70-130			
Surrogate: Toluene-d8	61		"	1250000		0.00484	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	1250000		0.00463	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

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 4D29007 - EPA 5030 (soil)

Matrix Spike (4D29007-MS1)		Source: X404282-02			Prepared: 04/29/2014 Analyzed: 04/29/2014					
Benzene	0.1	0.002	mg/kg	0.100	ND	109	70-130			
Toluene	0.1	0.002	"	0.100	ND	100	70-130			
Ethylbenzene	0.09	0.002	"	0.100	ND	86.2	70-130			
m,p-Xylene	0.3	0.004	"	0.200	0.1	104	70-130			
o-Xylene	0.2	0.002	"	0.100	0.09	107	70-130			
Naphthalene	0.09	0.008	"	0.100	0.02	71.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	1250000		0.00465	70-130			
Surrogate: Toluene-d8	61		"	1250000		0.00490	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	1250000		0.00504	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

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 4D29007 - EPA 5030 (soil)										
Matrix Spike Dup (4D29007-MSD1)			Source: X404282-02		Prepared: 04/29/2014 Analyzed: 04/29/2014					
Benzene	0.1	0.002	mg/kg	0.100	ND	111	70-130	2.36	20	
Toluene	0.1	0.002	"	0.100	ND	97.5	70-130	2.79	20	
Ethylbenzene	0.08	0.002	"	0.100	ND	79.8	70-130	7.71	20	
m,p-Xylene	0.3	0.004	"	0.200	0.1	88.6	70-130	10.0	20	
o-Xylene	0.2	0.002	"	0.100	0.09	90.9	70-130	8.15	20	
Naphthalene	0.09	0.008	"	0.100	0.02	66.6	70-130	5.12	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	1250000		0.00469	70-130			
Surrogate: Toluene-d8	61		"	1250000		0.00489	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	1250000		0.00486	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 4D29008 - EPA 3580

Blank (4D29008-BLK1)

Prepared: 04/29/2014 Analyzed: 04/29/2014

Diesel (C10-C28) ND 50.0 mg/kg

Surrogate: o-Terphenyl 46 g 50.0 92.2 59-131

LCS (4D29008-BS1)

Prepared: 04/29/2014 Analyzed: 04/29/2014

Diesel (C10-C28) 885 50.0 mg/kg 1000 88.5 64-121

Surrogate: o-Terphenyl 44 g 50.0 88.8 59-131

Matrix Spike (4D29008-MS1)

Source: X404282-02

Prepared: 04/29/2014 Analyzed: 04/29/2014

Diesel (C10-C28) 1030 50.0 mg/kg 1000 152 87.6 53-125

Surrogate: o-Terphenyl 47 g 50.0 94.8 59-131

Matrix Spike Dup (4D29008-MSD1)

Source: X404282-02

Prepared: 04/29/2014 Analyzed: 04/29/2014

Diesel (C10-C28) 1030 50.0 mg/kg 1000 152 88.1 53-125 0.435 20

Surrogate: o-Terphenyl 46 g 50.0 91.6 59-131

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: [none]
Project: Noble - Lorenz UPRR 42-271,41 273

Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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.

Ross S Hutto For Noelle Doyle Mathis, President



May 01, 2014

LT Environmental, Inc.

Chris Roy

4600 West 60th Avenue

Arvada

CO 80003

Project Name - Noble - Lorenz UPRR

Project Number - 008314023

Attached are your analytical results for Noble - Lorenz UPRR received by Origins Laboratory, Inc. April 30, 2014. This project is associated with Origins project number X404303-01.

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.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	X404303-01	Water	April 30, 2014 9:30	04/30/2014 16:04
SS05 @ 13'	X404303-02	Soil	April 30, 2014 13:45	04/30/2014 16:04
SS06 @ 13'	X404303-03	Soil	April 30, 2014 14:00	04/30/2014 16:04
SS07 @ 13'	X404303-04	Soil	April 30, 2014 14:15	04/30/2014 16:04

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X404303

Client: LTE

Client Project ID: LORENZ UPRR

Checklist Completed by: Joel Smith

Shipped Via: H/D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 4/30/14 16:06

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☒ Water ☐ Other: _____ (Describe)

Cooler Number/Temperature: 18.3 °C / _____ °C / _____ °C / _____ °C

Thermometer ID: 1002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is there ice present (document if blue ice is used)		<input checked="" type="checkbox"/>		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		Samples will be analyzed within 7 Days of collection
Additional Comments (if any):				

⁽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)

Date/Time Reviewed: 5/1/14 7:22

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

GW01

4/30/2014 9:30:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
X404303-01 (Water)

BTEX by EPA 8260C

Benzene	641	20.0	ug/L	20	4D30010	04/30/2014	05/01/2014
Toluene	1270	20.0	"	"	"	"	"
Ethylbenzene	40.6	20.0	"	"	"	"	"
Xylenes, total	627	20.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	103 %	87.3-113			"	"	"
Surrogate: Toluene-d8	98.4 %	90.9-108			"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	88.6-111			"	"	"

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS05 @ 13'

4/30/2014 1:45:00PM

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

Origins Laboratory, Inc.
X404303-02 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	65.5	50.0	mg/kg	1	4D30008	04/30/2014	04/30/2014
Surrogate: o-Terphenyl	92.6 %	59-131			"	"	"

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	71.4	5.0	mg/kg	25	4D30014	04/30/2014	04/30/2014
Benzene	ND	0.05	"	"	"	"	04/30/2014
Toluene	ND	0.05	"	"	"	"	"
Ethylbenzene	ND	0.05	"	"	"	"	"
Xylenes, total	2.6	0.05	"	"	"	"	04/30/2014
Naphthalene	ND	0.2	"	"	"	"	04/30/2014
Surrogate: 1,2-Dichloroethane-d4	0.00621 %	70-130			"	"	"
Surrogate: Toluene-d8	0.00480 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	0.00507 %	70-130			"	"	"

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS06 @ 13'

4/30/2014 2:00:00PM

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

Origins Laboratory, Inc.
X404303-03 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	92.3	50.0	mg/kg	1	4D30008	04/30/2014	04/30/2014
------------------	------	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	76.5 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	106	5.0	mg/kg	25	4D30014	04/30/2014	04/30/2014
-----------------------------	-----	-----	-------	----	---------	------------	------------

Benzene	ND	0.05	"	"	"	"	"
---------	----	------	---	---	---	---	---

Toluene	2.5	0.05	"	"	"	"	"
---------	-----	------	---	---	---	---	---

Ethylbenzene	0.4	0.05	"	"	"	"	"
--------------	-----	------	---	---	---	---	---

Xylenes, total	5.1	0.05	"	"	"	"	"
----------------	-----	------	---	---	---	---	---

Napthalene	ND	0.2	"	"	"	"	"
------------	----	-----	---	---	---	---	---

Surrogate: 1,2-Dichloroethane-d4	0.00509 %	70-130			"	"	"
----------------------------------	-----------	--------	--	--	---	---	---

Surrogate: Toluene-d8	0.00513 %	70-130			"	"	"
-----------------------	-----------	--------	--	--	---	---	---

Surrogate: 4-Bromofluorobenzene	0.00513 %	70-130			"	"	"
---------------------------------	-----------	--------	--	--	---	---	---

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS07 @ 13'

4/30/2014 2:15:00PM

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

Origins Laboratory, Inc.
X404303-04 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	93.7	50.0	mg/kg	1	4D30008	04/30/2014	04/30/2014
Surrogate: o-Terphenyl	78.7 %	59-131			"	"	"

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	27.4	5.0	mg/kg	25	4D30014	04/30/2014	04/30/2014
Benzene	ND	0.05	"	"	"	"	"
Toluene	0.6	0.05	"	"	"	"	"
Ethylbenzene	0.08	0.05	"	"	"	"	"
Xylenes, total	1.2	0.05	"	"	"	"	"
Napthalene	ND	0.2	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	0.00514 %	70-130			"	"	"
Surrogate: Toluene-d8	0.00500 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	0.00497 %	70-130			"	"	"

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30010 - EPA 5030B (Water)

Blank (4D30010-BLK1)

Prepared: 04/30/2014 Analyzed: 04/30/2014

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5	102		87.3-113			
Surrogate: Toluene-d8	63		"	62.5	101		90.9-108			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	102		88.6-111			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30010 - EPA 5030B (Water)

LCS (4D30010-BS1)

Prepared: 04/30/2014 Analyzed: 04/30/2014

Benzene	46.8	1.0	ug/L	50.0		93.5	75-126			
Toluene	45.6	1.0	"	50.0		91.2	78.7-126			
Ethylbenzene	43.3	1.0	"	50.0		86.6	81-130			
m,p-Xylene	89.0	2.0	"	100		89.0	77.2-133			
o-Xylene	47.2	1.0	"	50.0		94.5	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.4	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	88.6-111			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30010 - EPA 5030B (Water)

Matrix Spike (4D30010-MS1)		Source: X404291-02			Prepared: 04/30/2014 Analyzed: 04/30/2014					
Benzene	41.8	1.0	ug/L	50.0	ND	83.7	74-130			
Toluene	41.8	1.0	"	50.0	ND	83.5	73-131			
Ethylbenzene	39.2	1.0	"	50.0	ND	78.3	76-132			
m,p-Xylene	81.6	2.0	"	100	ND	81.6	69-139			
o-Xylene	42.8	1.0	"	50.0	ND	85.6	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.6	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		103	90.9-108			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		105	88.6-111			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30010 - EPA 5030B (Water)

Matrix Spike Dup (4D30010-MSD1)		Source: X404291-02			Prepared: 04/30/2014 Analyzed: 04/30/2014					
Benzene	52.2	1.0	ug/L	50.0	ND	104	74-130	21.9	20	QR-02
Toluene	50.2	1.0	"	50.0	ND	100	73-131	18.4	20	
Ethylbenzene	49.0	1.0	"	50.0	ND	98.1	76-132	22.4	20	QR-02
m,p-Xylene	103	2.0	"	100	ND	103	69-139	22.8	20	QR-02
o-Xylene	49.7	1.0	"	50.0	ND	99.3	74-131	14.8	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.1	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		103	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	88.6-111			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30014 - EPA 5030 (soil)

Blank (4D30014-BLK1)

Prepared: 04/30/2014 Analyzed: 04/30/2014

Gasoline Range Hydrocarbons	ND	0.2	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	1250000		0.00502	70-130			
Surrogate: Toluene-d8	59		"	1250000		0.00469	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	1250000		0.00490	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30014 - EPA 5030 (soil)

LCS (4D30014-BS1)

Prepared: 04/30/2014 Analyzed: 04/30/2014

Benzene	0.1	0.002	mg/kg	0.100		106	70-130			
Toluene	0.1	0.002	"	0.100		111	70-130			
Ethylbenzene	0.1	0.002	"	0.100		108	70-130			
m,p-Xylene	0.2	0.004	"	0.200		113	70-130			
o-Xylene	0.1	0.002	"	0.100		106	70-130			
Naphthalene	0.1	0.008	"	0.100		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	1250000		0.00509	70-130			
Surrogate: Toluene-d8	63		"	1250000		0.00504	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	1250000		0.00488	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4D30014 - EPA 5030 (soil)										
LCS Dup (4D30014-BSD1)					Prepared: 04/30/2014 Analyzed: 04/30/2014					
Benzene	0.1	0.002	mg/kg	0.100		95.4	70-130	10.1	20	
Toluene	0.1	0.002	"	0.100		96.3	70-130	14.0	20	
Ethylbenzene	0.09	0.002	"	0.100		94.8	70-130	13.0	20	
m,p-Xylene	0.2	0.004	"	0.200		97.7	70-130	14.3	20	
o-Xylene	0.09	0.002	"	0.100		91.9	70-130	14.5	20	
Naphthalene	0.09	0.008	"	0.100		93.2	70-130	12.2	20	
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	1250000		0.00523	70-130			
Surrogate: Toluene-d8	61		"	1250000		0.00489	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	1250000		0.00500	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 4D30008 - EPA 3580

Blank (4D30008-BLK1)

Prepared: 04/30/2014 Analyzed: 05/01/2014

Diesel (C10-C28) ND 50.0 mg/kg

Surrogate: o-Terphenyl 47 g 50.0 93.5 59-131

LCS (4D30008-BS1)

Prepared: 04/30/2014 Analyzed: 04/30/2014

Diesel (C10-C28) 788 50.0 mg/kg 1000 78.8 64-121

Surrogate: o-Terphenyl 41 g 50.0 82.9 59-131

Matrix Spike (4D30008-MS1)

Source: X404286-01

Prepared: 04/30/2014 Analyzed: 04/30/2014

Diesel (C10-C28) 899 50.0 mg/kg 1000 34.8 86.4 53-125

Surrogate: o-Terphenyl 46 g 50.0 92.8 59-131

Matrix Spike Dup (4D30008-MSD1)

Source: X404286-01

Prepared: 04/30/2014 Analyzed: 04/30/2014

Diesel (C10-C28) 863 50.0 mg/kg 1000 34.8 82.8 53-125 4.08 20

Surrogate: o-Terphenyl 45 g 50.0 90.9 59-131

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.

Ross S Hutto For Noelle Doyle Mathis, President

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- 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.

Ross S Hutto For Noelle Doyle Mathis, President



June 20, 2014

LT Environmental, Inc.

Chris Roy

4600 West 60th Avenue

Arvada CO 80003

Project Name - Noble - Lorenz UPRR

Project Number - 008314023

Attached are your analytical results for Noble - Lorenz UPRR received by Origins Laboratory, Inc. May 01, 2014. This project is associated with Origins project number X405014-01.

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.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS09 @ 13'	X405014-01	Soil	May 1, 2014 9:30	05/01/2014 15:35
SS10 @ 13'	X405014-02	Soil	May 1, 2014 11:30	05/01/2014 15:35
SS11 @ 13'	X405014-03	Soil	May 1, 2014 13:30	05/01/2014 15:35

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 Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

ORIGINS
LABORATORY, INC

www.originslaboratory.com

page 1 of 1

Client: LTE

Address: 4600 West 60th Ave Arvada

Telephone Number: 303 433 9188

Email Address: jwilson

Project Manager: Roy

Project Name: Lorenz UPRR

Project Number: 008314023

Samples Collected By: S. Wilson

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #			Other
SS09 @ 13'	5/1/14	0930	1	X					X			1	
SS10 @ 13'	↓	1130	↓	↓					↓			2	
SS11 @ 15'	↓	1350	↓	↓					↓			3	# High Conc. Expedited
												4	
												5	
												6	
												7	
												8	
												9	
												10	

Relinquished By: [Signature]

Relinquished By: [Signature]

Date: 5/1/14

Date: 5/1/14

Time: 1535

Time: 1535

Received By: [Signature]

Received By: [Signature]

Date: 5/1/14

Date: 5/1/14

Time: 1535

Time: 1535

Turnaround Time:

Same Day ☒ 24 Hr ☐

48 Hr ☐ 72 Hr ☐

Standard ☐

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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

Sample Receipt Checklist

Origins Work Order: X405014 Client: LT
Client Project ID: LORENZ UPRR

Checklist Completed by: [Signature] Shipped Via: N/A
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 5/2/14 7:00 Airbill #: A/D

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Cooler Number/Temperature: 1 21.3 °C / _____ °C / _____ °C

Thermometer ID: 1002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Sampled Same Day</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	<u>Soil</u>
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 HNO ₃ , HCL, H ₂ SO ₄ / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	<u>Soil</u>
Additional Comments (if any):				

⁽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) [Signature]

Date/Time Reviewed 5/2/14 7:00

Origins Laboratory, Inc.

[Signature]

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS09 @ 13'
5/1/2014 9:30:00AM

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

Origins Laboratory, Inc.
X405014-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4E01001	05/01/2014	05/01/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	85.4 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.2	mg/kg	1	4E01007	05/01/2014	05/01/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	98.0 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

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.

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

SS10 @ 13'

5/1/2014 11:30:00AM

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

Origins Laboratory, Inc.
X405014-02 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4E01001	05/01/2014	05/01/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	84.0 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	2.3	0.2	mg/kg	1	4E01007	05/01/2014	05/01/2014
Benzene	0.003	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	0.002	0.002	"	"	"	"	"
Xylenes, total	0.03	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	96.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

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 Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS11 @ 13'
5/1/2014 1:30:00PM

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

Origins Laboratory, Inc.
X405014-03 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	70.4	50.0	mg/kg	1	4E01001	05/01/2014	05/01/2014
------------------	------	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	87.2 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	520	10.0	mg/kg	50	4E01007	05/01/2014	05/02/2014
Benzene	0.7	0.1	"	"	"	"	"
Toluene	12.0	0.1	"	"	"	"	"
Ethylbenzene	2.0	0.1	"	"	"	"	"
Xylenes, total	27.7	0.1	"	"	"	"	"
Napthalene	ND	0.4	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"
Surrogate: Toluene-d8	108 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	70-130			"	"	"

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E01007 - EPA 5030 (soil)										
Blank (4E01007-BLK1)					Prepared: 05/01/2014 Analyzed: 05/01/2014					
Gasoline Range Hydrocarbons	ND	0.2	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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 Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E01007 - EPA 5030 (soil)										
LCS (4E01007-BS1)					Prepared: 05/01/2014 Analyzed: 05/01/2014					
Benzene	0.1	0.002	mg/kg	0.100		101	70-130			
Toluene	0.1	0.002	"	0.100		102	70-130			
Ethylbenzene	0.1	0.002	"	0.100		99.6	70-130			
m,p-Xylene	0.2	0.004	"	0.200		98.7	70-130			
o-Xylene	0.1	0.002	"	0.100		99.5	70-130			
Naphthalene	0.09	0.008	"	0.100		89.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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 Doyle Mathis, President

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

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 4E01007 - EPA 5030 (soil)

Matrix Spike (4E01007-MS1)		Source: X405006-01			Prepared: 05/01/2014 Analyzed: 05/01/2014					
Benzene	0.1	0.002	mg/kg	0.100	ND	95.9	70-130			
Toluene	0.09	0.002	"	0.100	ND	93.4	70-130			
Ethylbenzene	0.09	0.002	"	0.100	ND	93.4	70-130			
m,p-Xylene	0.2	0.004	"	0.200	ND	93.4	70-130			
o-Xylene	0.09	0.002	"	0.100	ND	94.8	70-130			
Naphthalene	0.09	0.008	"	0.100	0.008	79.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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 Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E01007 - EPA 5030 (soil)										
Matrix Spike Dup (4E01007-MSD1)		Source: X405006-01			Prepared: 05/01/2014 Analyzed: 05/01/2014					
Benzene	0.09	0.002	mg/kg	0.100	ND	91.6	70-130	4.63	20	
Toluene	0.09	0.002	"	0.100	ND	90.3	70-130	3.37	20	
Ethylbenzene	0.09	0.002	"	0.100	ND	87.4	70-130	6.64	20	
m,p-Xylene	0.2	0.004	"	0.200	ND	87.4	70-130	6.69	20	
o-Xylene	0.09	0.002	"	0.100	ND	87.5	70-130	7.99	20	
Naphthalene	0.09	0.008	"	0.100	0.008	78.8	70-130	1.05	20	
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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 Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 4E01001 - EPA 3580

Blank (4E01001-BLK1)

Prepared: 05/01/2014 Analyzed: 05/01/2014

Diesel (C10-C28) ND 50.0 mg/kg

Surrogate: o-Terphenyl 42 g 50.0 84.9 59-131

LCS (4E01001-BS1)

Prepared: 05/01/2014 Analyzed: 05/01/2014

Diesel (C10-C28) 938 50.0 mg/kg 1000 93.8 64-121

Surrogate: o-Terphenyl 40 g 50.0 79.5 59-131

Matrix Spike (4E01001-MS1)

Source: X405006-01

Prepared: 05/01/2014 Analyzed: 05/01/2014

Diesel (C10-C28) 849 50.0 mg/kg 1000 16.4 83.2 53-125

Surrogate: o-Terphenyl 43 g 50.0 86.9 59-131

Matrix Spike Dup (4E01001-MSD1)

Source: X405006-01

Prepared: 05/01/2014 Analyzed: 05/01/2014

Diesel (C10-C28) 862 50.0 mg/kg 1000 16.4 84.6 53-125 1.54 20

Surrogate: o-Terphenyl 44 g 50.0 88.7 59-131

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 Doyle Mathis, President

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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 Doyle Mathis, President



May 05, 2014

LT Environmental, Inc.

Chris Roy

4600 West 60th Avenue

Arvada

CO 80003

Project Name - Noble - Lorenz UPRR

Project Number - 008314023

Attached are your analytical results for Noble - Lorenz UPRR received by Origins Laboratory, Inc. May 02, 2014. This project is associated with Origins project number X405032-01.

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.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS12 @ 13'	X405032-01	Soil	May 2, 2014 13:00	05/02/2014 15:18

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.

Ross S Hutto For Noelle Doyle Mathis, President

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

[illegible]

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X405032

Client: LTE

Client Project ID: Lorenz UPRR

Checklist Completed by: Noelle Smith

Shipped Via: H/D
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/2/14 15:31

Airbill #: N/A

Matrix(s) Received: (Check all that apply): X Soil/Solid Water Other:

Cooler Number/Temperature: / 9.7 °C / °C / °C (Describe)

Thermometer ID: 1008

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		X		
Is there ice present (document if blue ice is used)		X		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	Soil
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			X	Soil
Additional Comments (if any):				

⁽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)

5/5/14 7:33
Date/Time Reviewed

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS12 @ 13'

5/2/2014 1:00:00PM

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

Origins Laboratory, Inc.
X405032-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	90.4	50.0	mg/kg	1	4E02008	05/02/2014	05/02/2014
Surrogate: o-Terphenyl	83.8 %	59-131			"	"	"

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	244	10.0	mg/kg	50	4E02007	05/02/2014	05/02/2014
Benzene	0.1	0.1	"	"	"	"	"
Toluene	0.2	0.1	"	"	"	"	"
Ethylbenzene	0.8	0.1	"	"	"	"	"
Xylenes, total	11.0	0.1	"	"	"	"	"
Naphthalene	ND	0.4	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	0.00521 %	70-130			"	"	"
Surrogate: Toluene-d8	0.00513 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	0.00508 %	70-130			"	"	"

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E02007 - EPA 5030 (soil)										
Blank (4E02007-BLK1)					Prepared: 05/02/2014 Analyzed: 05/02/2014					
Gasoline Range Hydrocarbons	ND	0.2	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	1250000		0.00548	70-130			
Surrogate: Toluene-d8	61		"	1250000		0.00487	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	1250000		0.00500	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E02007 - EPA 5030 (soil)										
LCS (4E02007-BS1)					Prepared: 05/02/2014 Analyzed: 05/02/2014					
Benzene	0.1	0.002	mg/kg	0.100		96.8	70-130			
Toluene	0.1	0.002	"	0.100		97.1	70-130			
Ethylbenzene	0.1	0.002	"	0.100		96.3	70-130			
m,p-Xylene	0.2	0.004	"	0.200		96.5	70-130			
o-Xylene	0.1	0.002	"	0.100		99.7	70-130			
Naphthalene	0.1	0.008	"	0.100		95.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	1250000		0.00519	70-130			
Surrogate: Toluene-d8	61		"	1250000		0.00486	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	1250000		0.00495	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E02007 - EPA 5030 (soil)

Matrix Spike (4E02007-MS1)		Source: X405023-03			Prepared: 05/02/2014 Analyzed: 05/02/2014					
Benzene	0.1	0.002	mg/kg	0.100	ND	103	70-130			
Toluene	0.1	0.002	"	0.100	ND	102	70-130			
Ethylbenzene	0.1	0.002	"	0.100	ND	99.0	70-130			
m,p-Xylene	0.2	0.004	"	0.200	ND	100	70-130			
o-Xylene	0.1	0.002	"	0.100	ND	105	70-130			
Naphthalene	0.1	0.008	"	0.100	0.0005	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	73		ug/kg	1250000		0.00584	70-130			
Surrogate: Toluene-d8	60		"	1250000		0.00483	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	1250000		0.00498	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E02007 - EPA 5030 (soil)										
Matrix Spike Dup (4E02007-MSD1)			Source: X405023-03		Prepared: 05/02/2014 Analyzed: 05/02/2014					
Benzene	0.1	0.002	mg/kg	0.100	ND	104	70-130	0.873	20	
Toluene	0.1	0.002	"	0.100	ND	100	70-130	1.67	20	
Ethylbenzene	0.1	0.002	"	0.100	ND	98.2	70-130	0.750	20	
m,p-Xylene	0.2	0.004	"	0.200	ND	97.8	70-130	2.59	20	
o-Xylene	0.1	0.002	"	0.100	ND	103	70-130	2.34	20	
Naphthalene	0.1	0.008	"	0.100	0.0005	116	70-130	3.88	20	
Surrogate: 1,2-Dichloroethane-d4	72		ug/kg	1250000		0.00575	70-130			
Surrogate: Toluene-d8	60		"	1250000		0.00480	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	1250000		0.00504	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 4E02008 - EPA 3580

Blank (4E02008-BLK1)

Prepared: 05/02/2014 Analyzed: 05/02/2014

Diesel (C10-C28) ND 50.0 mg/kg

Surrogate: o-Terphenyl 41 g 50.0 81.0 59-131

LCS (4E02008-BS1)

Prepared: 05/02/2014 Analyzed: 05/02/2014

Diesel (C10-C28) 791 50.0 mg/kg 1000 79.1 64-121

Surrogate: o-Terphenyl 39 g 50.0 77.2 59-131

Matrix Spike (4E02008-MS1)

Source: X405025-01

Prepared: 05/02/2014 Analyzed: 05/02/2014

Diesel (C10-C28) 806 50.0 mg/kg 1000 122 68.4 53-125

Surrogate: o-Terphenyl 42 g 50.0 84.5 59-131

Matrix Spike Dup (4E02008-MSD1)

Source: X405025-01

Prepared: 05/02/2014 Analyzed: 05/02/2014

Diesel (C10-C28) 816 50.0 mg/kg 1000 122 69.4 53-125 1.20 20

Surrogate: o-Terphenyl 41 g 50.0 81.4 59-131

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.

Ross S Hutto For Noelle Doyle Mathis, President

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

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.

Ross S Hutto For Noelle Doyle Mathis, President



May 06, 2014

LT Environmental, Inc.

Chris Roy

4600 West 60th Avenue

Arvada

CO 80003

Project Name - Noble - Lorenz UPRR

Project Number - 008314023

Attached are your analytical results for Noble - Lorenz UPRR received by Origins Laboratory, Inc. May 05, 2014. This project is associated with Origins project number X405044-01.

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.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS13 @ 13'	X405044-01	Soil	May 5, 2014 13:30	05/05/2014 15:55

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

www.originslaboratory.com page 1 of 1

X105044

ORIGINS LABORATORY, INC

Client: LT Project Manager: Roy
Address: 4600 W. 60th Ave Project Name: Lorenz UPRR
Telephone Number: 303 433 9189 Project Number: 008314023
Email Address: j.wilson Samples Collected By: S. Wilson

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis				Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	DBP	DRO	GP		
SS13@13'	5/5/14	1530	1	X				X					X	X	X	1
																2
																3
																4
																5
																6
																7
																8
																9
																10
Relinquished By: <u>[Signature]</u>	Date: <u>5/5/14</u>	Time: <u>1555</u>	Time: <u>1555</u>	Accepted By: <u>[Signature]</u>	Date: <u>5/5/14</u>	Time: <u>1555</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard									

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Delta Decalite Standard

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X408044

Client: LTE

Client Project ID: 008314023

Checklist Completed by: WJS

Shipped Via: H/A

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/5/1000

Airbill #: _____

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____

Cooler Number/Temperature: _____ / 26.4 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is there ice present (document if blue ice is used)		<input checked="" type="checkbox"/>		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	<u>SOIL</u>
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	<u>SOIL</u>
Additional Comments (if any):				

⁽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.

[Signature]
Reviewed by (Project Manager)

5/6/14 6:21
Date/Time Reviewed

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.

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

SS13 @ 13'

5/5/2014 1:30:00PM

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

Origins Laboratory, Inc.
X405044-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	862	50.0	mg/kg	1	4E05009	05/05/2014	05/05/2014
Surrogate: o-Terphenyl	100 %	59-131			"	"	"

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	4020	100	mg/kg	500	4E05008	05/05/2014	05/05/2014
Benzene	29.2	1.0	"	"	"	"	"
Toluene	165	1.0	"	"	"	"	"
Ethylbenzene	13.8	1.0	"	"	"	"	"
Xylenes, total	203	1.0	"	"	"	"	"
Naphthalene	0.6	0.4	"	50	"	"	"
Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	102 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E05008 - EPA 5030 (soil)										
Blank (4E05008-BLK1)					Prepared: 05/05/2014 Analyzed: 05/05/2014					
Gasoline Range Hydrocarbons	ND	0.2	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.7	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E05008 - EPA 5030 (soil)										
LCS (4E05008-BS1)					Prepared: 05/05/2014 Analyzed: 05/05/2014					
Benzene	0.1	0.002	mg/kg	0.100		97.8	70-130			
Toluene	0.09	0.002	"	0.100		87.1	70-130			
Ethylbenzene	0.09	0.002	"	0.100		90.3	70-130			
m,p-Xylene	0.2	0.004	"	0.200		92.6	70-130			
o-Xylene	0.09	0.002	"	0.100		91.4	70-130			
Naphthalene	0.09	0.008	"	0.100		92.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	59		"	62.5		95.1	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.2	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E05008 - EPA 5030 (soil)

Matrix Spike (4E05008-MS1)		Source: X405040-01			Prepared: 05/05/2014 Analyzed: 05/05/2014					
Benzene	0.09	0.002	mg/kg	0.100	ND	93.1	70-130			
Toluene	0.09	0.002	"	0.100	ND	88.1	70-130			
Ethylbenzene	0.09	0.002	"	0.100	ND	88.0	70-130			
m,p-Xylene	0.2	0.004	"	0.200	ND	90.0	70-130			
o-Xylene	0.09	0.002	"	0.100	ND	90.3	70-130			
Naphthalene	0.08	0.008	"	0.100	0.005	73.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.1	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.2	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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 4E05008 - EPA 5030 (soil)										
Matrix Spike Dup (4E05008-MSD1)			Source: X405040-01		Prepared: 05/05/2014 Analyzed: 05/05/2014					
Benzene	0.09	0.002	mg/kg	0.100	ND	94.1	70-130	1.07	20	
Toluene	0.09	0.002	"	0.100	ND	88.9	70-130	0.972	20	
Ethylbenzene	0.09	0.002	"	0.100	ND	86.3	70-130	1.90	20	
m,p-Xylene	0.2	0.004	"	0.200	ND	91.9	70-130	2.09	20	
o-Xylene	0.08	0.002	"	0.100	ND	84.5	70-130	6.68	20	
Naphthalene	0.09	0.008	"	0.100	0.005	81.3	70-130	9.93	20	
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.9	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy
Project Number: 008314023
Project: Noble - Lorenz UPRR

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 4E05009 - EPA 3580

Blank (4E05009-BLK1)

Prepared: 05/05/2014 Analyzed: 05/05/2014

Diesel (C10-C28) ND 50.0 mg/kg

Surrogate: o-Terphenyl 48 g 50.0 96.9 59-131

LCS (4E05009-BS1)

Prepared: 05/05/2014 Analyzed: 05/05/2014

Diesel (C10-C28) 903 50.0 mg/kg 1000 90.3 64-121

Surrogate: o-Terphenyl 44 g 50.0 88.7 59-131

Matrix Spike (4E05009-MS1)

Source: X405040-02

Prepared: 05/05/2014 Analyzed: 05/05/2014

Diesel (C10-C28) 895 50.0 mg/kg 1000 26.1 86.9 53-125

Surrogate: o-Terphenyl 45 g 50.0 89.0 59-131

Matrix Spike Dup (4E05009-MSD1)

Source: X405040-02

Prepared: 05/05/2014 Analyzed: 05/05/2014

Diesel (C10-C28) 930 50.0 mg/kg 1000 26.1 90.4 53-125 3.88 20

Surrogate: o-Terphenyl 47 g 50.0 93.9 59-131

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.

Ross S Hutto For Noelle Doyle Mathis, President

LT Environmental, Inc.

4600 West 60th Avenue

Arvada CO 80003

Chris Roy

Project Number: 008314023

Project: Noble - Lorenz UPRR

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.

Ross S Hutto For Noelle Doyle Mathis, President



May 07, 2014

LT Environmental, Inc.

Dan Hosler

4600 West 60th Avenue

Arvada

CO 80003

Project Name - Noble - Lorenz UPRR 42-271,41
273

Project Number - 008314023

Attached are your analytical results for Noble - Lorenz UPRR 42-271,41 273 received by Origins Laboratory, Inc. May 06, 2014. This project is associated with Origins project number X405060-01.

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.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS17@13'	X405060-01	Soil	May 6, 2014 13:00	05/06/2014 16:30
SS18@13'	X405060-02	Soil	May 6, 2014 14:00	05/06/2014 16:30

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

www.originslaboratory.com

page 1 of 1

X405060

ORIGINS LABORATORY, INC

Client: LTE
Address: 4600 W. 60th Ave.
Telephone Number: 303-433-9788
Email Address: r.hosler@ltenv.com

Project Manager: Dan Hosler
Project Name: Lorenz UPRR 42-271,41-273
Project Number: 008314023
Samples Collected By: Ryan H. Hosler

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa	Canister #			
5518Q13	5/6/14	1300	1	X										1
5518Q13	5/6/14	1400	1	X										2
														3
														4
														5
														6
														7
														8
														9
														10

Relinquished By: [Signature] Date: 5/6/14 Time: 16:30
Relinquished By: [Signature] Date: 5/6/14 Time: 16:30

Turnaround Time: Same Day ☒ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☐

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Date Rec'd: 5/6/14

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.

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X405060

Client: LTE

Client Project ID: Lorenz UPRR 42-271,

Checklist Completed by: Jose Smith

Shipped Via: H/D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/6/14 16:34

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____

Cooler Number/Temperature: _____ / 39 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: 1002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	<u>Soil</u>
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	<u>Soil</u>
Additional Comments (if any):				

⁽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.

R. Smith
Reviewed by (Project Manager)

5/7/14 6:15
Date/Time Reviewed

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.

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

SS17@13'

5/6/2014 1:00:00PM

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

Origins Laboratory, Inc.
X405060-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	244	50.0	mg/kg	1	4E06012	05/06/2014	05/06/2014	
Surrogate: o-Terphenyl	74.1 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	51.9	20.0	mg/kg	100	4E06013	05/06/2014	05/07/2014	
Benzene	ND	0.002	"	1	"	"	05/06/2014	
Toluene	0.1	0.002	"	"	"	"	"	
Ethylbenzene	0.1	0.002	"	"	"	"	"	
Xylenes, total	0.6	0.002	"	"	"	"	"	
Napthalene	0.02	0.008	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	0.00731 %	70-130			"	"	"	S-DUP
Surrogate: Toluene-d8	0.00639 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	0.00562 %	70-130			"	"	"	

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

SS18@13'

5/6/2014 2:00:00PM

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

Origins Laboratory, Inc.
X405060-02 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4E06012	05/06/2014	05/06/2014	
Surrogate: o-Terphenyl	82.2 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	684	10.0	mg/kg	50	4E06013	05/06/2014	05/06/2014	
Benzene	5.6	0.1	"	"	"	"	"	
Toluene	12.6	0.1	"	"	"	"	"	
Ethylbenzene	3.1	0.1	"	"	"	"	"	
Xylenes, total	31.4	0.1	"	"	"	"	"	
Napthalene	ND	0.4	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	0.00556 %	70-130			"	"	"	
Surrogate: Toluene-d8	0.00554 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	0.00516 %	70-130			"	"	"	

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

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 4E06013 - EPA 5030 (soil)

Blank (4E06013-BLK1)

Prepared: 05/06/2014 Analyzed: 05/06/2014

Gasoline Range Hydrocarbons	ND	0.2	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	68		ug/kg	1250000		0.00544	70-130			
Surrogate: Toluene-d8	58		"	1250000		0.00464	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	1250000		0.00492	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

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 4E06013 - EPA 5030 (soil)										
LCS (4E06013-BS1)					Prepared: 05/06/2014 Analyzed: 05/06/2014					
Benzene	0.1	0.002	mg/kg	0.100		101	70-130			
Toluene	0.1	0.002	"	0.100		95.2	70-130			
Ethylbenzene	0.09	0.002	"	0.100		93.6	70-130			
m,p-Xylene	0.2	0.004	"	0.200		94.1	70-130			
o-Xylene	0.1	0.002	"	0.100		96.9	70-130			
Naphthalene	0.09	0.008	"	0.100		89.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	1250000		0.00506	70-130			
Surrogate: Toluene-d8	60		"	1250000		0.00480	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	1250000		0.00493	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

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 4E06013 - EPA 5030 (soil)										
Matrix Spike (4E06013-MS1)		Source: X405060-01			Prepared: 05/06/2014 Analyzed: 05/06/2014					
Benzene	0.1	0.002	mg/kg	0.100	ND	109	70-130			
Toluene	0.2	0.002	"	0.100	0.1	50.0	70-130			QM-07
Ethylbenzene	0.2	0.002	"	0.100	0.1	37.5	70-130			QM-07
m,p-Xylene	0.5	0.004	"	0.200	0.3	107	70-130			
o-Xylene	0.3	0.002	"	0.100	0.3	10.1	70-130			QM-07
Naphthalene	0.08	0.008	"	0.100	0.02	57.1	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	83		ug/kg	1250000		0.00667	70-130			S-04
Surrogate: Toluene-d8	82		"	1250000		0.00655	70-130			S-04
Surrogate: 4-Bromofluorobenzene	71		"	1250000		0.00570	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

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 4E06013 - EPA 5030 (soil)										
Matrix Spike Dup (4E06013-MSD1)			Source: X405060-01		Prepared: 05/06/2014 Analyzed: 05/06/2014					
Benzene	0.08	0.002	mg/kg	0.100	ND	83.7	70-130	25.9	20	QM-07
Toluene	0.1	0.002	"	0.100	0.1	22.6	70-130	19.1	20	QM-07
Ethylbenzene	0.1	0.002	"	0.100	0.1	7.78	70-130	18.6	20	QM-07
m,p-Xylene	0.4	0.004	"	0.200	0.3	57.3	70-130	21.4	20	QM-07
o-Xylene	0.3	0.002	"	0.100	0.3	NR	70-130	10.2	20	QM-07
Naphthalene	0.06	0.008	"	0.100	0.02	45.4	70-130	16.8	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	78		ug/kg	1250000		0.00620	70-130			
Surrogate: Toluene-d8	73		"	1250000		0.00585	70-130			
Surrogate: 4-Bromofluorobenzene	67		"	1250000		0.00534	70-130			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 4E06012 - EPA 3580

Blank (4E06012-BLK1)

Prepared: 05/06/2014 Analyzed: 05/06/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	47		g	50.0		93.1	59-131			

LCS (4E06012-BS1)

Prepared: 05/06/2014 Analyzed: 05/06/2014

Diesel (C10-C28)	1040	50.0	mg/kg	1000		104	64-121			
Surrogate: o-Terphenyl	50		g	50.0		100	59-131			

LCS Dup (4E06012-BSD1)

Prepared: 05/06/2014 Analyzed: 05/06/2014

Diesel (C10-C28)	894	50.0	mg/kg	1000		89.4	64-121	15.2	20	
Surrogate: o-Terphenyl	44		g	50.0		87.7	59-131			

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.

Ross S Hutto For Noelle Doyle Mathis, President

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

Dan Hosler
Project Number: 008314023
Project: Noble - Lorenz UPRR 42-271,41 273

Notes and Definitions

S-DUP Duplicate analysis confirmed surrogate failure due to matrix effects.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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.

Ross S Hutto For Noelle Doyle Mathis, President