



June 29, 2009

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

**RE: Environmental Site Assessment Results
Phillips L30-6JI Tank Battery
Weld County, Colorado**

Dear Mr. Cox:

LT Environmental, Inc. (LTE) was retained by Noble Energy, Inc. (Noble) to conduct an Environmental Site Assessment (ESA) at the Phillips L30-6JI Tank Battery (Site).

The Site is located in a field approximately 2,500 feet southeast of the intersection of Justin Avenue (also Highway 66) and Business Highway 85 in Weld County, Colorado (Figure 1). The purpose of this ESA was to define the horizontal and vertical extent of hydrocarbon impacted soils and groundwater. A Site Map with soil boring locations is presented as Figure 1. Benzene concentrations in groundwater are illustrated on Figure 2. Additional details are provided below.

Soil Boring Advancement

LTE advanced a total of 19 direct push soil borings (SB01 through SB19) on May 21, 2009 and May 26, 2009. The soil borings were installed using a direct push rig owned and operated by Alpine Field Services of Golden, Colorado. Each soil boring was converted into a temporary monitoring well to allow for groundwater sample collection.

The soil borings were logged by an LTE geologist. The geologist inspected the soil for the presence/absence of petroleum hydrocarbon odor and/or staining. The soils were characterized by visually inspecting the soil samples collected in transparent, 4 feet long, acetate sampling liners. Soil boring total depths ranged from 6 feet to 12 feet below ground surface (bgs), with the majority of soil borings advanced to 6 feet bgs. Soil boring logs are included as Attachment 1. Depth to groundwater ranged from 1 foot to 3 feet bgs. Estimated groundwater flow direction is to the north.

Soils identified at the Site were predominantly observed as clayey, fine to medium grained sand that extended from the ground surface to depths ranging from approximately 1 foot to 2 feet bgs. Beneath the clayey sand, a well sorted, fine to very coarse grained sand with some gravel was observed from 1 foot to 2 feet to a total depth of 11 feet bgs.



Field identified soil impacts were observed in soil borings SB01, SB06, SB08, SB12, SB17, and SB18. Soil impact ranged between ground surface and 6 feet bgs, but was generally observed between 2 feet and 4 feet bgs.

Soil Sampling

Each soil boring was advanced using the direct-push method and sampled using a continuous sampler and field measurements in order to identify the vertical extent of soil impacts. Field measurements were collected in order to identify the vertical extent of soil impacts. Soil samples were submitted for analysis based on the sample interval that exhibited visible soil staining or where the highest PID reading was observed. If field screening methods indicated no petroleum hydrocarbon impacts were present in the borehole, a soil sample was collected directly above the static water level. To further characterize the soil boring, a limited number of samples utilized soils collected from above and below the static water level.

Soil samples were transferred into laboratory-prepared, 4-ounce, wide-mouth glass jars. The soil samples were placed on ice and delivered with a completed chain-of-custody (COC) form to Origins Laboratory, Inc. (Origins) of Denver, Colorado. Soil samples were submitted for analysis of total petroleum hydrocarbons (TPH) in the total volatile hydrocarbons-gasoline range organics (TVH-GRO) and total extractable hydrocarbons-diesel range organics (TEH-DRO) by United States Environmental Protection Agency (EPA) Method 8015M and for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B.

Temporary Groundwater Monitoring Well Installation

Each direct push soil boring was converted into a temporary groundwater monitoring well. The wells were constructed of 1-inch diameter polyvinyl chloride (PVC) casing extending from the surface stickups to depths ranging between 6 feet and 11 feet bgs. The lower 5 to 10 feet of each temporary well consisted of 0.010-inch factory slotted PVC well screen. Silica sand (size 10x20) was placed from the bottom of each well to the top of the well screen to act as filter pack for the temporary groundwater wells. Bentonite chips were placed from the top of the silica sand to the ground surface and hydrated at each boring to provide a seal against surface contamination and precipitation run-off.

Groundwater Sampling

Groundwater samples were collected from temporary monitoring well locations SB01 through SB19 on May 29, 2009. Each monitoring well was developed by removing approximately 10 casing volumes of groundwater using a peristaltic pump. Once the well had been developed, the well was allowed to recharge for at least 2 hours before a groundwater sample was collected. During development of monitoring well MW17, LTE personnel observed 0.80 feet of free product. Therefore, LTE did not collect a groundwater sample for analysis.

Groundwater samples were collected in three, laboratory prepared 40-milliliter vials. The groundwater samples were placed on ice and delivered with a completed chain-of-custody form to Origins. The groundwater samples were submitted for BTEX analyses by EPA Method 8260B.



Soil Analytical Results

The Colorado Oil and Gas Conservation Commission (COGCC) Standard for TPH is 500 milligrams per kilogram (mg/kg), 0.17 mg/kg for benzene, 85 mg/kg for toluene, 100 mg/kg for ethylbenzene, and 175 mg/kg for total xylenes.

Soil analytical results indicate that soil boring SB01 exceeded the COGCC Standard for TPH and benzene concentration with concentrations of 5,748 mg/kg and 0.927 mg/kg, respectively.

Concentrations of TPH and BTEX were not detected above the laboratory method detection limit and/or COGCC Standard in the remaining soil borings.

The soil analytical results are summarized in Table 1. Laboratory analytical reports are included as Attachment 2.

Groundwater Analytical Results

The Colorado Department of Public Health and Environment (CDPHE) has the Basic Standards for Groundwater in Colorado (WQCC Reg. 41) for BTEX of 5 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 analytical results indicate that benzene concentrations exceeded WQCC Reg. 41, at concentrations ranging between 17.1 $\mu\text{g/L}$ and 2,770 $\mu\text{g/L}$, at monitoring wells SB01, SB08, SB12, and SB19. Toluene concentration exceeded WQCC Reg. 41 at a concentration of 11,800 $\mu\text{g/L}$ at monitoring well MW01. Total xylenes concentrations exceeded WQCC Reg. 41 at concentrations of 10,890 $\mu\text{g/L}$ and 1,514 $\mu\text{g/L}$ at monitoring wells MW01 and MW08. BTEX concentrations were below laboratory method detection limits and/or in compliance with WQCC Reg. 41 for all remaining groundwater samples collected.

Groundwater analytical results are summarized in Table 2. Benzene concentrations are illustrated on Figure 2. Laboratory analytical reports are included as Attachment 2.

Summary and Conclusions

A total of 19 soil borings (SB01 through SB19) were advanced at the Site. Analytical data indicate that the horizontal and vertical extent of impact to soils has been defined. The estimated area of impacted soils measures approximately 25 feet in diameter, centered around SB01. The vertical extent of affected soil appears to extend to from ground surface to 6 feet bgs in the source area to 2 feet to 4 feet bgs to the north as the petroleum hydrocarbons mitigate downgradient.

Groundwater analytical results indicate that benzene, toluene, and total xylenes concentrations exceeded WQCC Reg. 41 in the groundwater samples collected from temporary monitoring wells SB01, SB08, SB12, and SB19. Groundwater analytical results indicate the horizontal extent of the impacted area is nearly defined. Although SB19 exhibits a benzene concentration of 17.1 $\mu\text{g/L}$, LTE believes groundwater impact does not extend significantly beyond this monitoring well. The estimated area of impacted groundwater measures approximately 220 feet



by 160 feet. An estimation of the extent of impact is presented on the Benzene Isoconcentration Map (Figure 2).

Remediation efforts will be presented in future reports.

Please call us at 303-433-9788 if you have any questions or comments regarding this report.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Brian Dodek". The signature is fluid and cursive, with the first name and last name clearly legible.

Brian Dodek, P.G.
Project Manager

A handwritten signature in black ink that reads "Steve Kahn". The signature is fluid and cursive, with the first name and last name clearly legible.

Steve Kahn, P.E.
Senior Engineer

Figure 1 - Site Location Map

Figure 2 - Monitoring Well Location Map

Figure 3 - Benzene Isoconcentration Map

Table 1- Groundwater Analytical Data

Attachment 1 - Soil Boring Logs

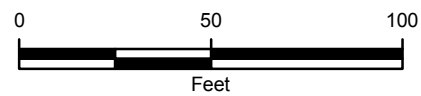
Attachment 2 - Laboratory Analytical Reports

FIGURES





IMAGE COURTESY OF GOOGLE EARTH, 2009



LEGEND

- MONITORING WELL
- PRODUCTION WELLHEAD

FIGURE 1
SITE MAP
PHILLIPS L30-6JI
SEC30 - 3N - 66W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





IMAGE COURTESY OF GOOGLE EARTH, 2009

LEGEND

⊗ MONITORING WELL

● PRODUCTION WELLHEAD

— BENZENE ISOCONCENTRATION CONTOUR

- - - DASHED WHERE INFERRED (ORDER OF MAGNITUDE)

SAMPLE ID

B - BENZENE IN MICROGRAMS PER LITER

NS - NOT SAMPLED

< - LESS THAN THE METHOD DETECTION LIMIT

GROUNDWATER SAMPLES WERE COLLECTED ON MAY 22, 2009.

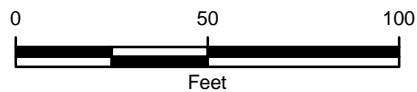


FIGURE 2
BENZENE ISOCONCENTRATION MAP
PHILLIPS L30-6JI
SEC30 - 3N - 66W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.



TABLES

TABLE 1

**SOIL ANALYTICAL DATA
PHILLIPS L30-6JI TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

MONITORING WELL	DATE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TVH-GRO (mg/kg)	TEH-DRO (mg/kg)	TPH (mg/kg)
SB01	5/21/2009	0.927	24.3	0.0946	183.6	3,880.60	1,867.50	5,748.10
SB02	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB03	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB04	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB05	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB06	5/21/2009	<0.004	<0.004	<0.004	1.76	<50.0	<50.0	<100.0
SB07	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB08	5/21/2009	<0.004	0.0154	<0.004	1.727	235.93	215.05	450.98
SB09	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB10	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB11	5/21/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB12	5/26/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB13	5/26/2009	<0.004	<0.004	<0.004	<0.012	<50.0	180	180
SB14	5/26/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB15	5/26/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB16	5/26/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
SB17	5/26/2009	<0.004	0.0202	<0.004	1.081	115	76.7	191.7
SB18	5/26/2009	<0.004	<0.004	<0.004	0.0108	<50.0	<50.0	<100.0
SB19	5/26/2009	<0.004	<0.004	<0.004	<0.012	<50.0	<50.0	<100.0
COGCC Standard		0.17	85	100	175			500

NOTES:

btoc - below top of casing

Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B

TVH-GRO and TEH-DRO analyzed by EPA Method 8015M

TPH - Total Petroleum Hydrocarbons is the combination of TVH-GRO and TEH-DRO

TVH-GRO - Total Volatile Hydrocarbons - Gasoline Range Organics

TEH-DRO - Total Extractable Hydrocarbons - Diesel Range Organics

mg/kg - milligrams per kilogram

< indicates result is less than the stated laboratory method detection limit

bold indicates result is above the applicable standard

COGCC - Colorado Oil and Gas Conservation Commission



TABLE 2

**GROUNDWATER ANALYTICAL DATA
PHILLIPS L30-6JI TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

MONITORING WELL	DATE	DTW/DTP (feet btoc)	PRODUCT THICKNESS (feet)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYLBENZENE (ug/L)	TOTAL XYLENES (ug/L)
SB01	5/29/2009	3.67		2,770	11,800	543	10,890
SB02	5/29/2009	3.88		<1.0	<1.0	<1.0	<3.0
SB03	5/29/2009	1.70		<1.0	<1.0	<1.0	<3.0
SB04	5/29/2009	1.54		<1.0	<1.0	<1.0	<3.0
SB05	5/29/2009	3.56		<1.0	<1.0	<1.0	<3.0
SB06	5/29/2009	3.53		<1.0	9.71	20.5	30.81
SB07	5/29/2009	3.84		<1.0	<1.0	<1.0	<3.0
SB08	5/29/2009	3.62		21.8	56.3	147	1,514
SB09	5/29/2009	2.89		<1.0	<1.0	<1.0	<3.0
SB10	5/29/2009	2.77		<1.0	<1.0	<1.0	<3.0
SB11	5/29/2009	2.46		<1.0	<1.0	<1.0	<3.0
SB12	5/29/2009	3.46		103	281	69.2	861
SB13	5/29/2009	3.10		<1.0	<1.0	<1.0	<3.0
SB14	5/29/2009	3.89		<1.0	<1.0	<1.0	<3.0
SB15	5/29/2009	3.42		<1.0	<1.0	<1.0	<3.0
SB16	5/29/2009	4.41		<1.0	<1.0	<1.0	<3.0
SB17	5/29/2009	4.28/3.48	0.80	-----product in well, not sampled-----			
SB18	5/29/2009	3.06		2.52	<1.0	<1.0	<3.0
SB19	5/29/2009	2.97		17.1	<1.0	<1.0	<3.0
CDPHE WQCC Reg 41				5.0	560	700	1,400

NOTES:

DTW - Depth to Water

DTP - Depth to Product

btoc - below top of casing

Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B

ug/L - micrograms per liter

< indicates result is less than the stated laboratory method detection limit

CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment - Water Quality Control

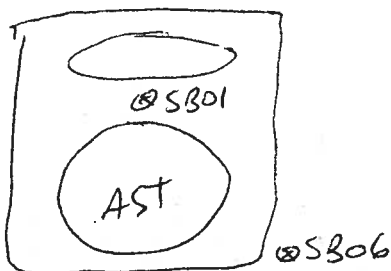
Commission Regulation 41 covering Basic Standards for Groundwater



ATTACHMENT 1
SOIL BORING LOGS



Well Location Sketch:



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

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB 01	Project: Phillips L30-6JI
Date: 5/26/2009	Project Number: NEP0909
Logged By: TED	Drilled By: Alpine Services
Drilling Method: Hand auger / Direct Push	Sampling Method: Continuous to 4'
Seal: Bentonite Chips	Grout: Bentonite
Casing Type: Sch 40 PVC	Diameter: 1" Length: 5'
Screen Type: Sch 40 PVC	Slot: 0.01
	Hole Diameter: 2" Depth to Liquid: —
	Total Depth: 12' Depth to Water: 2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist 8474		Yes		2			SC	Sand, clayey, very fine-coarse black impact, strong odor some gravel	
	Wet 9119		Yes		4			SW	Sand, well sorted fine - very coarse black staining 2' - ? strong odor	
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

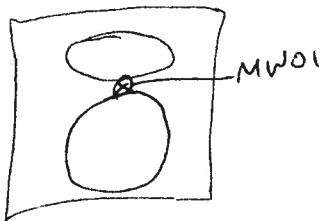
TD-12'

Hand augered 5/21 to 4', then could not go further due to hole collapsing.

5/26 - Crews onsite removing AST, removed part of berm.

Well re-installed (pushed to 12', no soil logging)

Well Location Sketch:



MW 02



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LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

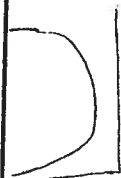
BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 02	Project:	Phillips L30-6JI
Date:	5/21/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Elevation:		Drilling Method:	Direct Push
Detector:	MiniRAE 2000	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Grout:	Bentonite
Screen Type:	Sch 40 PVC	Diameter:	1"
Slot:	0.01	Length:	4'
		Hole Diameter:	2"
		Total Depth:	6'
		Depth to Liquid:	
		Depth to Water:	2

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
Moist	0.0	No			2			SC	Sand, clayey very coarse to fine	
Wet		No			4			SW	Sand, well graded coarse fine - very coarse Some gravel no odor	
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 5'
Well pushed to 6'

Well Location Sketch:



SB02

SB03

Wellhead



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LT Environmental, Inc.

4600 W. 60th Avenue

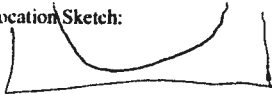
Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB 03	Project: Phillips L30-6J1
Date: 5/21/2009	Project Number: NEP0909
Logged By: TED	Drilled By: Alpine Services
Drilling Method: Direct Push	Sampling Method: Continuous
Gravel Pack: CSSI 10x20	Seal: Bentonite Chips
Casing Type: Sch 40 PVC	Grout: Bentonite
Screen Type: Sch 40 PVC	Diameter: 1"
Slot: 0.01	Length: 1'
	Hole Diameter: 2"
	Depth to Liquid: 2'
	Total Depth: 6'
	Depth to Water: 2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.0	No		2			SC	Sand, clayey - very fine to coarse	
	Wet	57.5	Yes		4			SW	Sand, well sorted fine - very coarse	
		0.0	No		6				Some gravel	
					8				stained between 1'-3'	
					10				organic No odor	
					12				TD-5'	
					14				Well pushed to	
					16				6'	
					18				Flush mounted	
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:



SB04

SB03

wellhead



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LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 04	Project:	Phillips L30-6JI
Date:	5/21/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Seal:	Bentonite Chips	Grout:	Bentonite
Diameter:	1"	Length:	1'
Hole Diameter:	2"	Depth to Liquid:	
Diameter:	1"	Length:	5'
Total Depth:	6'	Depth to Water:	2'

Elevation:

Detector:

MiniRAE 2000

Gravel Pack:

CSSI 10x20

Casing Type:

Sch 40 PVC

Screen Type:

Sch 40 PVC

Slot:

0.01

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

0

Moist

2.8

No

2

Wet

No

4

SC

sand, clayey, very fine to coarse
 sand, fine - very coarse
 some gravel, no odor

SW

TD--5'
 Well pushed to 6'
 Flush mounted

6

8

10

12

14

16

18

20

22

24

26

28

30

32

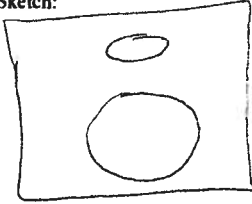
34

36

38

40

Well Location Sketch:

SB
02SB05
⊗

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LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB05

Project:

Phillips L30-6JI

Date:

5/21/2009

Project Number:

NEP0909

Logged By:

TED

Drilled By:

Alpine Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Bentonite

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

4'

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

5'

Total Depth:

6'

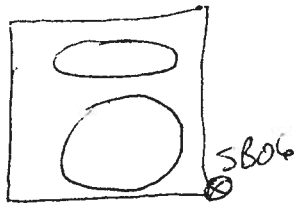
Depth to Water:

2

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	66.3	No		2			SC	sand, clayey, very fine to coarse	
	Wet	31.2	YES		4			SW	sand, fine to coarse, some staining 1/4 1 1/2 - 2 1/2	
			No		6				No odor	
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Ep Organic TD-5'
Well pushed to 6'
Stickup

Well Location Sketch:



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LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 06	Project:	Phillips L30-6JI
Date:	5/21/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Seal:	Bentonite Chips	Grout:	Bentonite
Diameter:	1"	Length:	4'
Hole Diameter:	2"	Depth to Liquid:	
Diameter:	1"	Length:	10'
Total Depth:	11'	Depth to Water:	3

Elevation:

Detector:

MiniRAE 2000

Gravel Pack:

CSSI 10x20

Casing Type:

Sch 40 PVC

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

11'

Depth to Water:

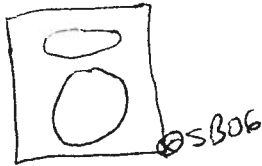
3

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	55.7	No		2			SW	sand, well sorted	
	Wet	3942	Yes		4				fine - very coarse	
		44.3	No		6				Some gravel	
			No		8				staining from 2'-4.5'	
		0.0	No		10				Strong odor	
					12				very black from 4 1/2' - 4 3/4'	
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 10'

Well pushed to 11'

Well Location Sketch:



SB07

SB05



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB 07

Project:

Phillips L30-6JI

Date:

5/21/2009

Project Number:

NEP0909

Logged By:

TED

Drilled By:

Alpine Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Bentonite

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

4'

Hole Diameter:

2"

Depth to Liquid:

—

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

5'

Total Depth:

6'

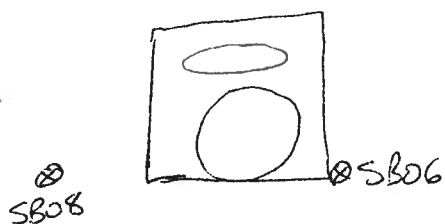
Depth to Water:

3'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.0	No		2			SC	sand, clayey, fine-coarse no odor, brown	
	Wet	0.0	No		4			SW	sand, fine to very coarse no odor, some gravel	
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-5'
Pushed to 6'

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 08	Project:	Phillips L30-6JI
Date:	5/21/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Grout:	Bentonite
Screen Type:	Sch 40 PVC	Diameter:	1"
Slot:	0.01	Length:	4'
		Hole Diameter:	2"
		Total Depth:	11'
		Depth to Liquid:	
		Depth to Water:	2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.0	No		2			SC	Sand, clayey, fine-coarse	
	Wet	4213	Yes		4			SW	1 ft. brown	
		0.0	No		6				Sand, fine to very coarse	
		0.0	No		8				strong odor/staining	
			No		10				from 3-4'	
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-10'
Pushed to 11'

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB 09

Project:

Phillips L30-6JI

Date:

5/21/2009

Project Number:

NEP0909

Logged By:

TED

Drilled By:

Alpine Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Bentonite

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

4'

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

5'

Total Depth:

6'

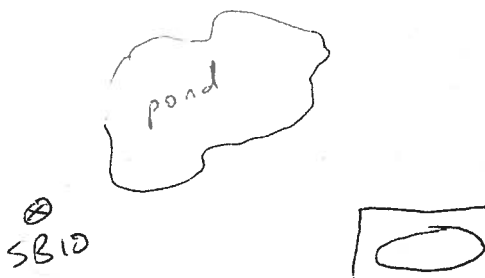
Depth to Water:

2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	1.4	No		2			CL	clay sandy, very fine to dark brown to black medium highly organic, no odor SAND - well sorted fine to very coarse Some gravel, no odor	
	Wet		No		4			SW		
			No		6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 5'
Pushed to 6'

Well Location Sketch:



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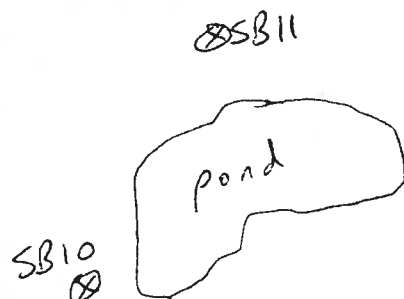
Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 10	Project:	Phillips L30-6J1
Date:	5/21/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Seal:	Bentonite Chips	Grout:	Bentonite
Gravel Pack:	CSSI 10x20	Hole Diameter:	2"
Casing Type:	Sch 40 PVC	Length:	4'
Screen Type:	Sch 40 PVC	Diameter:	1"
Slot:	0.01	Length:	5'
		Total Depth:	6'
		Depth to Liquid:	
		Depth to Water:	1'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.0	No		2			SC	sand, clayey, very fine-medium	
	Wet	0.0	Yes		4			SW	sand, fine to very coarse	
			No						stained from 3-4'	
					6				no odor, possibly organic	
					8				TD-5'	
					10				Pushed to 6'	
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB 11	Project: Phillips L30-6JI
Date: 5/21/2009	Project Number: NEP0909
Logged By: TED	Drilled By: Alpine Services
Drilling Method: Direct Push	Sampling Method: Continuous
Seal: Bentonite Chips	Grout: Bentonite
Diameter: 1"	Length: 4'
Hole Diameter: 2"	Depth to Liquid: —
Diameter: 1"	Length: 10'
Total Depth: 11'	Depth to Water: 1'

Elevation:

Detector:

MiniRAE 2000

Gravel Pack:

CSSI 10x20

Casing Type:

Sch 40 PVC

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

4'

Hole Diameter:

2"

Depth to Liquid:

—

Diameter:

1"

Length:

10'

Total Depth:

11'

Depth to Water:

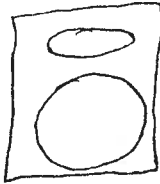
1'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Wet	8.3	Yes		2			CL	clay, sandy, very fine-fine black, possibly organic no odor	
		0.0	Organic?		4					
					6			SW	sand, fine to very coarse black staining is possibly organic	
		0.0	No		8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 10'

Pushed to 11'

Well Location Sketch:



SB 12

SB 02



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 12	Project:	Phillips L30-6JI
Date:	5/26/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Elevation:		Drilling Method:	Direct Push
Detector:	MiniRAE 2000	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Grout:	Bentonite
Screen Type:	Sch 40 PVC	Diameter:	1"
Slot:	0.01	Length:	4'
		Hole Diameter:	2"
		Total Depth:	11'
		Depth to Liquid:	
		Depth to Water:	2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.4	No		2			SC	Sand, clayey, very fine - fine	
	Wet	20.8	Yes		4			SW	no odor	
			No		6				Sand, well sorted	
			No		8				some clay, grain	
		0.3	No		10				size increases w/ depth	
			No						impacted 3 1/2' - 4'	
									black, moderate odor	
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 10'

Pushed to 11'

Well Location Sketch:

access road

SB13

SB12



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 13	Project:	Phillips L30-6JI
Date:	5/26/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services

Elevation:	Detector:	MiniRAE 2000	Drilling Method:	Direct Push	Sampling Method:	Continuous
------------	-----------	--------------	------------------	-------------	------------------	------------

Gravel Pack:	Seal:	Grout:
CSSI 10x20	Bentonite Chips	Bentonite

Casing Type:	Diameter:	Length:	Hole Diameter:	Depth to Liquid:
Sch 40 PVC	1"	4'	2"	

Screen Type:	Slot:	Diameter:	Length:	Total Depth:	Depth to Water:
Sch 40 PVC	0.01	1"	5'	6'	2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.1	No		2			SW	Sand, fine - very coarse	
	Wet	0.3	No		4			CL	clay, sandy, very fine - fine	
	↓		No					SW	black, highly organic	
					6				Sand, fine to coarse	
									some gravel	
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 5'

Pushed to 6'

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 14	Project:	Phillips L30-6J1
Date:	5/26/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Elevation:		Drilling Method:	Direct Push
Detector:	MiniRAE 2000	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Grout:	Bentonite
Screen Type:	Sch 40 PVC	Diameter:	1"
		Length:	4'
		Hole Diameter:	2"
		Depth to Liquid:	
		Total Depth:	6'
		Depth to Water:	2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0-1	No		2			CL	clay, sandy very fine - fine	
	Wet		No		4			SW	sand, fine - very coarse	
			No		6				clayey, increasingly coarser with depth, no odor	
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-5'
Pushed to 6'

Well Location Sketch:

SB12
⊗SB14
⊗

Shed

⊗SB15



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB 15

Project:

Phillips L30-6J1

Date:

5/26/2009

Project Number:

NEP0909

Logged By:

TED

Drilled By:

Alpine Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Bentonite

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

4'

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

5'

Total Depth:

6'

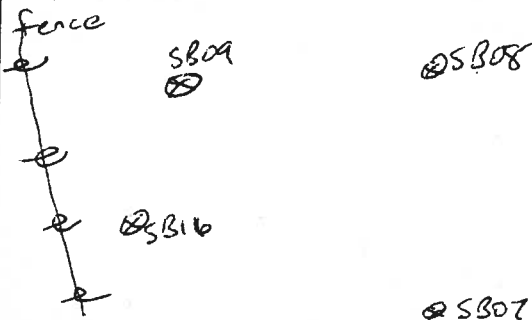
Depth to Water:

2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist 2.0	No			2			CL	Clay, very fine - fine	
	Wet 0.8	No			4			SW	Very organic sand, fine to very coarse	
		No			6				no odor	
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 5'
Pushed to 6'

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB 16 Project: Phillips L30-6J1

Date: 5/26/2009 Project Number: NEP0909

Logged By: TED Drilled By: Alpine Services

Elevation: Detector: MiniRAE 2000 Drilling Method: Direct Push Sampling Method: Continuous

Gravel Pack: CSSI 10x20 Seal: Bentonite Chips Grout: Bentonite

Casing Type: Sch 40 PVC Diameter: 1" Length: 4' Hole Diameter: 2" Depth to Liquid:

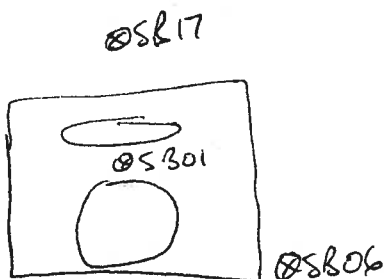
Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 5' Total Depth: 6' Depth to Water: 2

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

					0					
	Moist	0.2	No		2			CL	clay, very fine fine, black highly organic	
	Wet	0.3	No		4			SW	sand, fine - very coarse slight odor at 3 1/2' likely organic	
			No		6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-5'
Pushed to 6'

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB 17	Project:	Phillips L30-6J1
Date:	5/26/2009	Project Number:	NEP0909
Logged By:	TED	Drilled By:	Alpine Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Grout:	Bentonite
Screen Type:	Sch 40 PVC	Diameter:	1"
Slot:	0.01	Length:	4'
		Hole Diameter:	2"
		Total Depth:	11'
		Depth to Liquid:	—
		Depth to Water:	2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist 5.8		No		2			SC	Sand, clayey, fine-very coarse	
	Wet 3,465		Yes		4			CL	clay, very fine- fine	
	2,059		↓		6				staining starts at 2'	
	112.3		No		8			SW	Sand, fine - very coarse	
	65.9		↓		10				staining continues 2'-6'	
									-heavy, strong odor	
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 10'
Pushed to 11'

Well Location Sketch:

Separator

fence

SB 18

pond



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB 18

Project:

Phillips L30-6J1

Date:

5/26/2009

Project Number:

NEP0909

Logged By:

TED

Drilled By:

Alpine Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Bentonite

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

4'

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

11

Depth to Water:

2'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	1.9	No		2			SW	Sand, fine - very coarse	
	Wet	40.3	Yes		4				some gravel	
		2.1	No		6				stained 3'-4'	
					8				moderate odor	
		1.3			10					
					12				TD-10'	
					14				Pushed to 11'	
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

SB19



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB 19 Project: Phillips L30-6J1

Date: 5/26/2009 Project Number: NEP0909

Logged By: TED Drilled By: Alpine Services

Elevation: Detector: MiniRAE 2000 Drilling Method: Direct Push Sampling Method: Continuous

Gravel Pack: CSSI 10x20 Seal: Bentonite Chips Grout: Bentonite

Casing Type: Sch 40 PVC Diameter: 1" Length: 4' Hole Diameter: 2" Depth to Liquid: —

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 5' Total Depth: 6' Depth to Water: 2'

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

					0					
	Moist	0.6	No		2			CL	clay, sandy very fine-fine	
	Wet	1.3	No		4			SW	Sand fine-very coarse no odor	
	↓		No							
					6					
					8					
					10					
					12					
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-5'
Pushed to 6'

ATTACHMENT 2
LABORATORY ANALYTICAL REPORTS





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

May 27, 2009

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

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

Attached are the analytical results for Noble – Phillips received by Origins Laboratory, Inc. 5/22/2009 9:25:00AM. Please let us know if you have any questions, or if we can help with anything at all.

A handwritten signature in black ink, appearing to read "Noelle E Doyle", is written in a cursive style.

Noelle E Doyle
Laboratory Manager

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

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

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB01(2')	X905102-01	Soil	5/21/2009 9:03:00AM	05/22/2009 09:25
SB02(2')	X905102-02	Soil	5/21/2009 10:25:00AM	05/22/2009 09:25
SB03(2')	X905102-03	Soil	5/21/2009 10:50:00AM	05/22/2009 09:25
SB04(2')	X905102-04	Soil	5/21/2009 11:32:00AM	05/22/2009 09:25
SB05(2')	X905102-05	Soil	5/21/2009 12:20:00PM	05/22/2009 09:25
SB06(2')	X905102-06	Soil	5/21/2009 12:50:00PM	05/22/2009 09:25
SB07(2')	X905102-07	Soil	5/21/2009 1:45:00PM	05/22/2009 09:25
SB08(2')	X905102-08	Soil	5/21/2009 2:32:00PM	05/22/2009 09:25
SB09(2')	X905102-09	Soil	5/21/2009 3:00:00PM	05/22/2009 09:25
SB10(2')	X905102-10	Soil	5/21/2009 3:45:00PM	05/22/2009 09:25
SB11(2')	X905102-11	Soil	5/21/2009 4:35:00PM	05/22/2009 09:25

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

Sample ID - Description	Date Sampled	Number of Containers	Preservative					Matrix	Analysis		Sample Instructions	
			Unpreserved	HCl	HNO ₃	Other -	Groundwater		Soil	Air - Summa Canister #		Other -
SB01 (2')	5/21/09 9:03	1	X									
SB02 (2')	10:25											
SB03 (2')	10:50											
SB04 (2')	11:32											
SB05 (2')	12:20											
SB06 (2')	12:50											
SB07 (2')	13:45											
SB08 (2')	14:32											
SB09 (2')	15:00											
SB10 (2')	15:45	1	X									

Reinquisition by: SSD

Requisitioned by: SSD

Received by: SSD

Received by: SSD

Date: 5/22/09 9:25

Date: 5/22/09 9:25

Time: 15:45

Time: 9:25

Temperature Upon Receipt: **33**

Turn Around Time: **33**

Same Day: ☒ 24-hr: ☐ 48-hr: ☐ 72-hr: ☒

5/22/09 9:25

5/22/09 9:25

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Naucke

Page 3 of 18

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips



Client _____
Address _____
Telephone Number _____
E-Mail Address _____

Project Manager _____
Project Name _____
Project Number _____
Samples Collected by _____

Sample ID - Description	Date Sampled	Time Sampled	Number of Containers	Preservative						Matrix	Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other -	Groundwater	Soil				Air - Summa Canister #
S811 (2-)	5/21/09	1635	1	X							X		
Reinquisitioned by:	Date	Time	Received by:	Date	Time								
[Signature]	5/22/09	925	[Signature]										
Reinquisitioned by:	Date	Time	Received by:	Date	Time								
			[Signature]										
Temperature Upon Receipt:						Turn Around Time:							
3.3						Same Day 48 hr 72 hr							
X9105102													

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB01(2')
X905102-01 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.927	0.0200	mg/kg	5	9E25002	05/25/2009	05/27/2009
Toluene	24.3	1.00	"	250	"	"	05/27/2009
Ethylbenzene	0.0946	0.0200	"	5	"	"	05/27/2009
o-Xylene	41.6	1.00	"	250	"	"	05/27/2009
m,p-Xylene	142	2.00	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.2 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	98.7 %	83-123	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	3880.6	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	1867.5	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	106 %	65-140	"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB02(2')

X905102-02 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.1 %	70.3-123	"	"	"
Surrogate: Toluene-d8	109 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	83-123	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	99.0 %	65-140	"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB03(2')

X905102-03 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	94.4 %	70.3-123			"	"	"
Surrogate: Toluene-d8	114 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	99.0 %	65-140			"	"	"
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SB04(2')

X905102-04 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	91.3 %	70.3-123			"	"	"
Surrogate: Toluene-d8	99.8 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	93.6 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	96.4 %	65-140			"	"	"
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SB05(2')
X905102-05 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.4 %	70.3-123			"	"	"
Surrogate: Toluene-d8	104 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	94.8 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	97.2 %	65-140			"	"	"
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Project Number: NEP0909
Project: Noble – Phillips

SB06(2')
X905102-06 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	0.260	0.00400	"	"	"	"	"
m,p-Xylene	1.50	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	106 %	70.3-123	"	"	"
Surrogate: Toluene-d8	89.7 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	83-123	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	99.6 %	65-140	"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB07(2')

X905102-07 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	92.0 %	70.3-123			"	"	"
Surrogate: Toluene-d8	104 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	97.5 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	106 %	65-140			"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB08(2')
X905102-08 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	0.0154	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	0.187	0.00400	"	"	"	"	"
m,p-Xylene	1.54	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	95.6 %	70.3-123			"	"	"
Surrogate: Toluene-d8	89.2 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	90.5 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	235.93	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	215.05	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	94.8 %	65-140			"	"	"
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Project Number: NEP0909
Project: Noble – Phillips

SB09(2')

X905102-09 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	103 %	70.3-123			"	"	"
Surrogate: Toluene-d8	109 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	95.0 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	94.7 %	65-140			"	"	"
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Project Number: NEP0909
Project: Noble – Phillips

SB10(2')
X905102-10 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	115 %	70.3-123			"	"	"
Surrogate: Toluene-d8	96.0 %	75.9-123			"	"	"
Surrogate: 4-Bromofluorobenzene	84.8 %	83-123			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	103 %	65-140			"	"	"
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Brian Dodek
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Project: Noble – Phillips

SB11(2')
X905102-11 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E25002	05/25/2009	05/27/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	109 %	70.3-123	"	"	"
Surrogate: Toluene-d8	98.1 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	87.4 %	83-123	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.00	mg/kg	1	9E25001	05/25/2009	05/25/2009
Diesel (C10-C28)	ND	50.00	"	"	"	"	"

Surrogate: o-Terphenyl	97.2 %	65-140	"	"	"
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Brian Dodek
 Project Number: NEP0909
 Project: Noble – Phillips

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
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Batch 9E25001 – Default Prep GC-Semi

Blank (9E25001–BLK1)

Prepared: 05/25/2009 Analyzed: 05/25/2009

Gasoline (C6–C10)	ND	50.00	mg/kg							
Diesel (C10–C28)	ND	50.00	"							
Surrogate: o-Terphenyl	60.5		g	50.0		121	65–140			

LCS (9E25001–BS1)

Prepared: 05/25/2009 Analyzed: 05/25/2009

Gasoline (C6–C10)	ND	50.00	mg/kg				65–140			
Diesel (C10–C28)	186.84	50.00	"	200		93.4	60–140			
Surrogate: o-Terphenyl	50.9		g	50.0		102	65–140			

Matrix Spike (9E25001–MS1)

Source: X905102–10

Prepared: 05/25/2009 Analyzed: 05/25/2009

Gasoline (C6–C10)	ND	50.00	mg/kg		ND		65–130			
Diesel (C10–C28)	197.19	50.00	"	200	ND	98.6	60–140			
Surrogate: o-Terphenyl	50.6		g	50.0		101	65–140			

Matrix Spike Dup (9E25001–MSD1)

Source: X905102–10

Prepared: 05/25/2009 Analyzed: 05/25/2009

Gasoline (C6–C10)	ND	50.00	mg/kg		ND		65–130		20	
Diesel (C10–C28)	204.20	50.00	"	200	ND	102	60–140	3.49	25	
Surrogate: o-Terphenyl	51.3		g	50.0		103	65–140			

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 Arvada CO 80003

Brian Dodek
 Project Number: NEP0909
 Project: Noble – Phillips

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9E25002 – EPA 5030B

Blank (9E25002–BLK1)

Prepared: 05/25/2009 Analyzed: 05/27/2009

Benzene	ND	0.004	mg/kg							
Toluene	ND	0.004	"							
Ethylbenzene	ND	0.004	"							
o-Xylene	ND	0.004	"							
m,p-Xylene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	63.4		ug/L	62.5		101	70.3–123			
Surrogate: Toluene-d8	69.0		"	62.5		110	75.9–123			
Surrogate: 4-Bromofluorobenzene	63.3		"	62.5		101	83–123			

LCS (9E25002–BS1)

Prepared: 05/25/2009 Analyzed: 05/27/2009

Benzene	0.24	0.004	mg/kg	0.200		119	81.7–142			
Toluene	0.20	0.004	"	0.200		100	72.2–134			
Surrogate: 1,2-Dichloroethane-d4	62.2		ug/L	62.5		99.5	70.3–123			
Surrogate: Toluene-d8	61.0		"	62.5		97.7	75.9–123			
Surrogate: 4-Bromofluorobenzene	57.0		"	62.5		91.2	83–123			

Matrix Spike (9E25002–MS1)

Source: X905102–04

Prepared: 05/25/2009 Analyzed: 05/27/2009

Benzene	0.23	0.004	mg/kg	0.200	ND	117	89.6–143			
Toluene	0.21	0.004	"	0.200	ND	104	73–141			
Surrogate: 1,2-Dichloroethane-d4	61.5		ug/L	62.5		98.4	70.3–123			
Surrogate: Toluene-d8	65.1		"	62.5		104	75.9–123			
Surrogate: 4-Bromofluorobenzene	59.8		"	62.5		95.7	83–123			

Matrix Spike Dup (9E25002–MSD1)

Source: X905102–04

Prepared: 05/25/2009 Analyzed: 05/27/2009

Benzene	0.22	0.004	mg/kg	0.200	ND	112	89.6–143	4.30	13.1	
Toluene	0.20	0.004	"	0.200	ND	98.3	73–141	5.21	20.9	
Surrogate: 1,2-Dichloroethane-d4	61.1		ug/L	62.5		97.8	70.3–123			
Surrogate: Toluene-d8	66.3		"	62.5		106	75.9–123			
Surrogate: 4-Bromofluorobenzene	60.1		"	62.5		96.2	83–123			

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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

Notes and Definitions

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

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Noelle E Doyle, Laboratory Manager



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May 29, 2009

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

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

Attached are the analytical results for Noble – Phillips received by Origins Laboratory, Inc. 5/26/2009 3:52:00PM. Please let us know if you have any questions, or if we can help with anything at all.

A handwritten signature in black ink, appearing to read "Noelle E Doyle", is written in a cursive style.

Noelle E Doyle
Laboratory Manager

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

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB12	X905111-01	Soil	5/26/2009 9:15:00AM	05/26/2009 15:52
SB13	X905111-02	Soil	5/26/2009 10:00:00AM	05/26/2009 15:52
SB14	X905111-03	Soil	5/26/2009 10:25:00AM	05/26/2009 15:52
SB15	X905111-04	Soil	5/26/2009 10:50:00AM	05/26/2009 15:52
SB16	X905111-05	Soil	5/26/2009 11:17:00AM	05/26/2009 15:52
SB17	X905111-06	Soil	5/26/2009 12:05:00PM	05/26/2009 15:52
SB18	X905111-07	Soil	5/26/2009 1:20:00PM	05/26/2009 15:52
SB19	X905111-08	Soil	5/26/2009 2:00:00PM	05/26/2009 15:52

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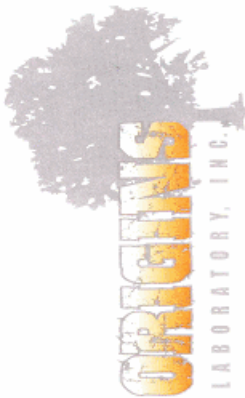
Noelle E Doyle, Laboratory Manager



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

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

X905111
page 1 of 1



originslaboratory.com

Client: LT
Address: 4600 West 60th Avenue
Telephone Number: 303.433.1322
E-Mail Address: LT@LT.com

Project Manager: BDD
Project Name: Noble - Phillips
Project Number: NEP0909
Samples Collected by: TED

Sample ID - Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air - Summa Canister #		
SB12	5/26/09	915	1	X							TX 8015	X905111
SB13	5/26/09	1000	1								GT 8015	
SB14	5/26/09	1035	1								GT 8260	
SB15	5/26/09	1050	1									
SB16	5/26/09	1117	1									
SB17	5/26/09	1305	1									
SB18	5/26/09	1320	1									
SB19	5/26/09	1400	1									
FA												
Relinquished by: <u>LT</u>	Date: <u>5/26/09</u>	Time: <u>1552</u>		Received by: <u>[Signature]</u>	Date: <u>5/26/09</u>	Time: <u>1552</u>		Temperature Upon Receipt: <u>29</u>				
Relinquished by: <u>LT</u>	Date: <u>5/26/09</u>	Time: <u>1552</u>		Received by: <u>[Signature]</u>	Date: <u>5/26/09</u>	Time: <u>1552</u>		Temperature Upon Receipt: <u>29</u>				

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB12

X905111-01 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	133 %	77.6-134	"	"	"
Surrogate: Toluene-d8	91.1 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	84.9 %	74.7-114	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	92.6 %	65-140	"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB13

X905111-02 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	125 %	77.6-134	"	"	"
Surrogate: Toluene-d8	92.2 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	81.0 %	74.7-114	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	180	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	87.9 %	65-140	"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB14

X905111-03 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	117 %	77.6-134	"	"	"
Surrogate: Toluene-d8	93.7 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	80.2 %	74.7-114	"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	89.4 %	65-140	"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB15

X905111-04 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	123 %	77.6-134			"	"	"
Surrogate: Toluene-d8	92.1 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	71.4 %	74.7-114			"	"	" S-GC

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	87.3 %	65-140			"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB16
X905111-05 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	119 %	77.6-134			"	"	"
Surrogate: Toluene-d8	95.4 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	71.8 %	74.7-114			"	"	" S-GC

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	88.4 %	65-140			"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB17

X905111-06 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	0.0202	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	0.150	0.00400	"	"	"	"	"
m,p-Xylene	0.931	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	114 %	77.6-134			"	"	"
Surrogate: Toluene-d8	92.1 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	91.3 %	74.7-114			"	"	"

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	115	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	76.7	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	93.4 %	65-140			"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB18

X905111-07 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	0.0108	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	102 %	77.6-134			"	"	"
Surrogate: Toluene-d8	108 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	74.0 %	74.7-114			"	"	" S-GC

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	95.9 %	65-140			"	"	"
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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB19

X905111-08 (Soil)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	9E28006	05/28/2009	05/29/2009
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	103 %	77.6-134			"	"	"
Surrogate: Toluene-d8	104 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	71.1 %	74.7-114			"	"	" S-GC

GRO/DRO by EPA 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	9E27002	05/27/2009	05/27/2009
Diesel (C10-C28)	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	89.8 %	65-140			"	"	"
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Brian Dodek
 Project Number: NEP0909
 Project: Noble – Phillips

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
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Batch 9E27002 – Default Prep GC-Semi

Blank (9E27002-BLK1)

Prepared: 05/27/2009 Analyzed: 05/27/2009

Gasoline (C6-C10)	ND	50.0	mg/kg							
Diesel (C10-C28)	ND	50.0	"							
Surrogate: o-Terphenyl	46.3		g	50.0		92.6	65-140			

LCS (9E27002-BS1)

Prepared: 05/27/2009 Analyzed: 05/27/2009

Gasoline (C6-C10)	61.8	50.0	mg/kg				65-140			
Diesel (C10-C28)	194	50.0	"	200		97.2	60-140			
Surrogate: o-Terphenyl	47.9		g	50.0		95.9	65-140			

Matrix Spike (9E27002-MS1)

Source: X905109-04

Prepared: 05/27/2009 Analyzed: 05/27/2009

Gasoline (C6-C10)	51.8	50.0	mg/kg		ND		65-130			
Diesel (C10-C28)	199	50.0	"	200	ND	99.3	60-140			
Surrogate: o-Terphenyl	56.4		g	50.0		113	65-140			

Matrix Spike Dup (9E27002-MSD1)

Source: X905109-04

Prepared: 05/27/2009 Analyzed: 05/27/2009

Gasoline (C6-C10)	51.7	50.0	mg/kg		ND		65-130	0.280	20	
Diesel (C10-C28)	208	50.0	"	200	ND	104	60-140	4.63	25	
Surrogate: o-Terphenyl	56.7		g	50.0		113	65-140			

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Brian Dodek
 Project Number: NEP0909
 Project: Noble – Phillips

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9E28006 – EPA 5030B

Blank (9E28006–BLK1)

Prepared: 05/28/2009 Analyzed: 05/28/2009

Benzene	ND	0.004	mg/kg							
Toluene	ND	0.004	"							
Ethylbenzene	ND	0.004	"							
o-Xylene	ND	0.004	"							
m,p-Xylene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	77.6		ug/L	62.5		124	77.6-134			
Surrogate: Toluene-d8	53.9		"	62.5		86.2	81.4-121			
Surrogate: 4-Bromofluorobenzene	60.6		"	62.5		97.0	74.7-114			

LCS (9E28006–BS1)

Prepared: 05/28/2009 Analyzed: 05/29/2009

Benzene	0.21	0.004	mg/kg	0.200		106	81.7-142			
Toluene	0.16	0.004	"	0.200		78.9	72.2-134			
Surrogate: 1,2-Dichloroethane-d4	80.6		ug/L	62.5		129	77.6-134			
Surrogate: Toluene-d8	53.2		"	62.5		85.2	81.4-121			
Surrogate: 4-Bromofluorobenzene	57.7		"	62.5		92.3	74.7-114			

Matrix Spike (9E28006–MS1)

Source: X905111-01

Prepared: 05/28/2009 Analyzed: 05/29/2009

Benzene	0.23	0.004	mg/kg	0.200	ND	115	89.6-143			
Toluene	0.15	0.004	"	0.200	ND	73.8	73-141			
Surrogate: 1,2-Dichloroethane-d4	81.0		ug/L	62.5		130	77.6-134			
Surrogate: Toluene-d8	55.9		"	62.5		89.5	81.4-121			
Surrogate: 4-Bromofluorobenzene	56.3		"	62.5		90.1	74.7-114			

Matrix Spike Dup (9E28006–MSD1)

Source: X905111-01

Prepared: 05/28/2009 Analyzed: 05/29/2009

Benzene	0.20	0.004	mg/kg	0.200	ND	98.1	89.6-143	15.7	13.1	QM-07
Toluene	0.12	0.004	"	0.200	ND	60.9	73-141	19.1	20.9	QM-07
Surrogate: 1,2-Dichloroethane-d4	78.9		ug/L	62.5		126	77.6-134			
Surrogate: Toluene-d8	52.0		"	62.5		83.3	81.4-121			
Surrogate: 4-Bromofluorobenzene	51.1		"	62.5		81.8	74.7-114			

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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
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

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Noelle E Doyle, Laboratory Manager



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June 03, 2009

LT Environmental, Inc.
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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

Attached are the analytical results for Noble – Phillips received by Origins Laboratory, Inc. 5/29/2009 3:56:00PM. Please let us know if you have any questions, or if we can help with anything at all.

Noelle E Doyle
Laboratory Manager

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

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Project Number: NEP0909
Project: Noble – Phillips

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB01	X905127-01	Water	5/29/2009 12:20:00PM	05/29/2009 15:56
SB02	X905127-02	Water	5/29/2009 12:30:00PM	05/29/2009 15:56
SB03	X905127-03	Water	5/29/2009 12:40:00PM	05/29/2009 15:56
SB04	X905127-04	Water	5/29/2009 12:50:00PM	05/29/2009 15:56
SB05	X905127-05	Water	5/29/2009 1:00:00PM	05/29/2009 15:56
SB06	X905127-06	Water	5/29/2009 1:10:00PM	05/29/2009 15:56
SB07	X905127-07	Water	5/29/2009 1:20:00PM	05/29/2009 15:56
SB08	X905127-08	Water	5/29/2009 1:30:00PM	05/29/2009 15:56
SB09	X905127-09	Water	5/29/2009 1:40:00PM	05/29/2009 15:56
SB10	X905127-10	Water	5/29/2009 1:50:00PM	05/29/2009 15:56
SB11	X905127-11	Water	5/29/2009 2:00:00PM	05/29/2009 15:56
SB12	X905127-12	Water	5/29/2009 2:10:00PM	05/29/2009 15:56
SB13	X905127-13	Water	5/29/2009 2:20:00PM	05/29/2009 15:56
SB14	X905127-14	Water	5/29/2009 2:21:00PM	05/29/2009 15:56
SB15	X905127-15	Water	5/29/2009 2:22:00PM	05/29/2009 15:56
SB16	X905127-16	Water	5/29/2009 2:23:00PM	05/29/2009 15:56
SB18	X905127-17	Water	5/29/2009 2:24:00PM	05/29/2009 15:56

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB19	X905127-18	Water	5/29/2009 2:25:00PM	05/29/2009 15:56

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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

X915127
page 1 of 2



originslaboratory.com

Client: LTE
Address: _____

Project Manager: BDD
Project Name: Phillips
Project Number: NEP0909
Samples Collected by: TED

Telephone Number: _____
E-Mail Address: OUT@LTE

Sample ID - Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analysis	
				Unpreserved	HCl	HNO ₃	Other - H ₂ O	Groundwater	Soil	Air - Summa Canister #	Other -
SB01	5/29/09	1220	3	X						X	BTEX860
SB02		1230		X							
SB03		1240		X							
SB04		1250		X							
SB05		1300		X							
SB06		1310		X							
SB07		1320		X							
SB08		1330		X							
SB09		1340		X							
SB10		1350		X							

Relinquished by: [Signature] Date: 5/29/09 Time: 1550

Relinquished by: [Signature] Date: 5/29/09 Time: 1550

Received by: [Signature] Date: 5/29/09 Time: 1550

Temperature Upon Receipt: 20

Turnaround Time: 24-hr 48-hr 72-hr

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[Signature]

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

X905127
page 2 of 2



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Client: LT
Address: 4600 West 60th Avenue
Telephone Number: 303-433-1322
E-Mail Address: LT@LT.com

Project Manager: BDD
Project Name: Phillips
Project Number: NEP0909
Samples Collected by: TEP

Sample ID - Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analysis	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air - Summa Canister #		
SB 11	5/29/09	1400	3	X								
SB 12	5/29/09	1410		X								
SB 13	5/29/09	1420		X								
SB 14	5/29/09	1421		X								
SB 15	5/29/09	1422		X								
SB 16	5/29/09	1423		X								
SB 17	5/29/09	1424		X								
SB 18	5/29/09	1425		X								
SB 19	5/29/09	1435		X								
SB 20	5/29/09	1435		X								
SB 21	5/29/09	1435		X								
SB 22	5/29/09	1435		X								
SB 23	5/29/09	1435		X								
SB 24	5/29/09	1435		X								
SB 25	5/29/09	1435		X								
SB 26	5/29/09	1435		X								
SB 27	5/29/09	1435		X								
SB 28	5/29/09	1435		X								
SB 29	5/29/09	1435		X								
SB 30	5/29/09	1435		X								
SB 31	5/29/09	1435		X								
SB 32	5/29/09	1435		X								
SB 33	5/29/09	1435		X								
SB 34	5/29/09	1435		X								
SB 35	5/29/09	1435		X								
SB 36	5/29/09	1435		X								
SB 37	5/29/09	1435		X								
SB 38	5/29/09	1435		X								
SB 39	5/29/09	1435		X								
SB 40	5/29/09	1435		X								
SB 41	5/29/09	1435		X								
SB 42	5/29/09	1435		X								
SB 43	5/29/09	1435		X								
SB 44	5/29/09	1435		X								
SB 45	5/29/09	1435		X								
SB 46	5/29/09	1435		X								
SB 47	5/29/09	1435		X								
SB 48	5/29/09	1435		X								
SB 49	5/29/09	1435		X								
SB 50	5/29/09	1435		X								
SB 51	5/29/09	1435		X								
SB 52	5/29/09	1435		X								
SB 53	5/29/09	1435		X								
SB 54	5/29/09	1435		X								
SB 55	5/29/09	1435		X								
SB 56	5/29/09	1435		X								
SB 57	5/29/09	1435		X								
SB 58	5/29/09	1435		X								
SB 59	5/29/09	1435		X								
SB 60	5/29/09	1435		X								
SB 61	5/29/09	1435		X								
SB 62	5/29/09	1435		X								
SB 63	5/29/09	1435		X								
SB 64	5/29/09	1435		X								
SB 65	5/29/09	1435		X								
SB 66	5/29/09	1435		X								
SB 67	5/29/09	1435		X								
SB 68	5/29/09	1435		X								
SB 69	5/29/09	1435		X								
SB 70	5/29/09	1435		X								
SB 71	5/29/09	1435		X								
SB 72	5/29/09	1435		X								
SB 73	5/29/09	1435		X								
SB 74	5/29/09	1435		X								
SB 75	5/29/09	1435		X								
SB 76	5/29/09	1435		X								
SB 77	5/29/09	1435		X								
SB 78	5/29/09	1435		X								
SB 79	5/29/09	1435		X								
SB 80	5/29/09	1435		X								
SB 81	5/29/09	1435		X								
SB 82	5/29/09	1435		X								
SB 83	5/29/09	1435		X								
SB 84	5/29/09	1435		X								
SB 85	5/29/09	1435		X								
SB 86	5/29/09	1435		X								
SB 87	5/29/09	1435		X								
SB 88	5/29/09	1435		X								
SB 89	5/29/09	1435		X								
SB 90	5/29/09	1435		X								
SB 91	5/29/09	1435		X								
SB 92	5/29/09	1435		X								
SB 93	5/29/09	1435		X								
SB 94	5/29/09	1435		X								
SB 95	5/29/09	1435		X								
SB 96	5/29/09	1435		X								
SB 97	5/29/09	1435		X								
SB 98	5/29/09	1435		X								
SB 99	5/29/09	1435		X								
SB 100	5/29/09	1435		X								

Relinquished by: SSP Date: 5/29/09 Time: 1556
Relinquished by: SSP Date: 5/29/09 Time: 1556

Temperature Upon Receipt: 32°
Turn Around Time: 72-hr

Standard: 7

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Origins Laboratory, Inc.
Noelle E Doyle

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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB01

X905127-01 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	2.77	0.0500	mg/L	50	9F01004	06/01/2009	06/02/2009
Toluene	11.8	0.0500	"	"	"	"	"
Ethylbenzene	0.543	0.0500	"	"	"	"	"
o-Xylene	2.03	0.0500	"	"	"	"	"
m,p-Xylene	8.86	0.100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.0 %	85.7-134	"	"	"
Surrogate: Toluene-d8	98.8 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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Noelle E Doyle, Laboratory Manager

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB02

X905127-02 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.4 %	85.7-134	"	"	"
Surrogate: Toluene-d8	103 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	110 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB03

X905127-03 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.0 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	109 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB04

X905127-04 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.3 %	85.7-134	"	"	"
Surrogate: Toluene-d8	102 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	109 %	74.7-127	"	"	"

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Brian Dodek
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SB05

X905127-05 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.5 %	85.7-134	"	"	"
Surrogate: Toluene-d8	102 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	108 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB06

X905127-06 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	0.00971	0.00100	"	"	"	"	"
Ethylbenzene	0.0205	0.00100	"	"	"	"	"
o-Xylene	0.00461	0.00100	"	"	"	"	"
m,p-Xylene	0.0262	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.5 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	107 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB07

X905127-07 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.7 %	85.7-134	"	"	"
Surrogate: Toluene-d8	102 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	107 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB08
X905127-08 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.0218	0.00100	mg/L	1	9F01004	06/01/2009	06/03/2009
Toluene	0.0563	0.0100	"	10	"	"	06/03/2009
Ethylbenzene	0.147	0.0100	"	"	"	"	"
o-Xylene	0.174	0.0100	"	"	"	"	"
m,p-Xylene	1.34	0.0200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	100 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	97.4 %	74.7-127	"	"	"

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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB09

X905127-09 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.1 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	109 %	74.7-127	"	"	"

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Arvada CO 80003

Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB10

X905127-10 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.1 %	85.7-134	"	"	"
Surrogate: Toluene-d8	103 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	110 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB11

X905127-11 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.6 %	85.7-134	"	"	"
Surrogate: Toluene-d8	103 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	108 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB12

X905127-12 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.103	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	0.281	0.0100	"	10	"	"	06/03/2009
Ethylbenzene	0.0692	0.00100	"	1	"	"	06/02/2009
o-Xylene	0.165	0.00100	"	"	"	"	"
m,p-Xylene	0.696	0.0200	"	10	"	"	06/03/2009

Surrogate: 1,2-Dichloroethane-d4	94.4 %	85.7-134	"	"	06/02/2009
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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Project: Noble – Phillips

SB13
X905127-13 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.6 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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Project: Noble – Phillips

SB14

X905127-14 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.0 %	85.7-134	"	"	"
Surrogate: Toluene-d8	102 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	108 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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SB15

X905127-15 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.0 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	109 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB16

X905127-16 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.6 %	85.7-134	"	"	"
Surrogate: Toluene-d8	102 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	107 %	74.7-127	"	"	"

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Brian Dodek
Project Number: NEP0909
Project: Noble – Phillips

SB18

X905127-17 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00252	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.7 %	85.7-134	"	"	"
Surrogate: Toluene-d8	101 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	110 %	74.7-127	"	"	"

Origins Laboratory, Inc.

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SB19

X905127-18 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.0171	0.00100	mg/L	1	9F01004	06/01/2009	06/02/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.7 %	85.7-134	"	"	"
Surrogate: Toluene-d8	102 %	81.4-121	"	"	"
Surrogate: 4-Bromofluorobenzene	109 %	74.7-127	"	"	"

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9F01004 – EPA 5030B

Blank (9F01004–BLK1)

Prepared: 06/01/2009 Analyzed: 06/02/2009

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

Surrogate: 1,2-Dichloroethane-d4	61.6	ug/L	62.5	98.5	85.7-134
Surrogate: Toluene-d8	63.2	"	62.5	101	81.4-121
Surrogate: 4-Bromofluorobenzene	66.2	"	62.5	106	74.7-127

LCS (9F01004–BS1)

Prepared: 06/01/2009 Analyzed: 06/02/2009

Benzene	0.04	0.001	mg/L	0.0500	79.2	74.9–126
Toluene	0.04	0.001	"	0.0500	83.0	73.3–128
Surrogate: 1,2-Dichloroethane-d4	61.6		ug/L	62.5	98.5	85.7–134
Surrogate: Toluene-d8	64.2		"	62.5	103	81.4–121
Surrogate: 4-Bromofluorobenzene	66.3		"	62.5	106	74.7–127

Matrix Spike (9F01004–MS1)

Source: X905127-02

Prepared: 06/01/2009 Analyzed: 06/02/2009

Benzene	0.04	0.001	mg/L	0.0500	ND	80.2	78.1-132
Toluene	0.04	0.001	"	0.0500	ND	83.4	71.7-124
Surrogate: 1,2-Dichloroethane-d4	60.3		ug/L	62.5		96.4	85.7-134
Surrogate: Toluene-d8	64.2		"	62.5		103	81.4-121
Surrogate: 4-Bromofluorobenzene	67.1		"	62.5		107	74.7-127

Matrix Spike Dup (9F01004–MSD1)

Source: X905127-02

Prepared: 06/01/2009 Analyzed: 06/02/2009

Benzene	0.04	0.001	mg/L	0.0500	ND	85.1	78.1-132	5.93	24.8
Toluene	0.05	0.001	"	0.0500	ND	95.8	71.7-124	13.9	25
<hr/>									
Surrogate: 1,2-Dichloroethane-d4	60.7		ug/L	62.5		97.1	85.7-134		
Surrogate: Toluene-d8	64.3		"	62.5		103	81.4-121		
Surrogate: 4-Bromofluorobenzene	67.9		"	62.5		109	74.7-127		

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Notes and Definitions

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

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