

804 Grand Ave.
Platteville, CO 80651



Tel: 970.785.5000
After Hours: 303.939.8585
Fax: 970.785.5099
www.nobleenergyinc.com

North America Division

April 20, 2009

Mr. Robert Chesson
Department Of Natural Resources
Oil & Gas Conservation Commission
1120 Lincoln St., Suite 801
Denver CO 80203-2136

RE: Site Assessment Results
Chestnut G 22-6
API 05-123-17715
Sec. 22, T4N R65W
Weld County, Colorado

Dear Mr. Chesson:

Please find attached the Site Assessment Report for the above referenced site. Please contact the NEI environmental department at (970) 785-5000 if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink that reads 'Mikel Cox'.

Mikel Cox
Environmental Coordinator

A handwritten signature in black ink that reads 'Marty Faraguna'.

Marty Faraguna
Environmental Specialist

Attachments



April 15, 2009

Mr. Marty Faraguna
Environmental Specialist
Noble Energy, Inc.
804 Grand Avenue
Platteville, Colorado 80651

RE: Environmental Site Assessment Results
Chestnut G 22-6 Tank Battery
Weld County, Colorado

Dear Mr. Faraguna:

LT Environmental, Inc. (LTE) was retained by Noble Energy, Inc. (Noble) to conduct an Environmental Site Assessment (ESA) at the Chestnut G 22-6 Tank Battery (Site) following source removal activities conducted from December 3, 2008 through December 19, 2008. A remediation summary report summarizing source removal activities will be submitted under separate cover.

The Site is located in a field approximately 2,500 feet southeast of the intersection of County Road 44 and County Road 43 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 not removed during excavation activities. Prior to the initiation of the ESA, Noble contractors conducted source removal activities west of the area of investigation. A Site Map with soil boring locations is presented as Figure 2. Benzene concentrations in groundwater are illustrated on Figure 3. Additional details are provided below.

Field Observations

LTE advanced a total of 30 direct push soil borings (MW01 through MW30) on January 9, 2009 and February 16 through 18, 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 18 feet to 30 feet below ground surface (bgs), with the majority of soil borings advanced to 20 feet bgs. Soil boring logs are included as Attachment 1. Depth to groundwater ranged from 12 feet to 17 feet bgs. Estimated groundwater flow direction is east to northeast.



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 4 feet to 6 feet bgs. Beneath the clayey sand, a clayey/silty, fine to coarse grained sand with gravel and interbedded sandy clays was observed from approximately 6 feet to 18 feet bgs. Bedrock composed of claystone and sandstone was observed from 18 feet to a total depth of 30 feet bgs.

Field identified soil impacts were observed in soil borings MW01 through MW06, MW07, MW10 through MW12, MW15, MW17, MW18, MW20, and MW21. Soil impact ranged between 4 feet to 20 feet bgs, but was generally observed between 14 feet and 16 feet bgs.

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 18 feet and 25 feet bgs. The lower 10 to 20 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 approximately 2 feet above 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 MW01 through MW05 on January 13, 2009, from MW06 through MW18 on February 19, 2009, and from MW19 through MW30 on February 25, 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 12 hours before a groundwater sample was collected. Before development of monitoring well MW17, LTE personnel observed a thin layer of free product on top of the water column. Following development of the monitoring well, LTE personnel did not observe a significant amount of free product and collected 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 Laboratory, Inc. (Origins). The groundwater samples were submitted for benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyses by United States Environmental Protection Agency (EPA) Method 8260B.

Groundwater Analytical Results

The Colorado Department of Public Health and Environment (CDPHE) has the Basic Standards for Groundwater in Colorado (WQCC Reg. 41) for benzene, toluene, ethylbenzene, and total xylenes (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 32.9 $\mu\text{g/L}$ and 26,400 $\mu\text{g/L}$, at monitoring wells MW01 through



MW06, MW08, MW09, MW10 through MW12, MW15 through MW19, MW22, and MW23. Toluene concentrations exceeded WQCC Reg. 41, at concentrations ranging between 1,420 µg/L and 14,900 µg/L, at monitoring wells MW01 through MW05, MW08, MW15, and MW17. Ethylbenzene concentrations exceeded WQCC Reg. 41 at MW17, at a concentration of 775 µg/L. Total xylenes concentrations exceeded WQCC Reg. 41 at concentrations ranging between 1,732 µg/L to 9,990 µg/L, at monitoring wells MW01 through MW06, MW08, MW10, and MW15. 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 1. Benzene concentrations are illustrated on Figure 3. Laboratory analytical reports are included as Attachment 2.

Summary and Conclusions

Source removal activities were conducted at the Site from December 3, 2008 through December 19, 2008, after which Noble determined an ESA was necessary. An excavation report is forthcoming upon completion of site remediation activities.

A total of 30 soil borings (MW01 through MW30) were advanced at the Site. Hydrocarbon-stained soils are present in 15 soil borings ranging from approximately 4 feet to 20 feet bgs, with the majority of stained soils observed from 14 feet to 16 feet bgs.

Field observations indicate that the horizontal and vertical extent of impact to soils has been defined. The estimated area of impacted soils east of the excavation measures approximately 160 feet by 130 feet.

Groundwater analytical results indicate that benzene, toluene, and total xylenes concentrations exceeded WQCC Reg. 41 in the groundwater samples collected from temporary monitoring wells MW01 through MW06, MW08 through MW12, MW15 through MW19, MW22, and MW23. Groundwater analytical results indicate the horizontal extent of the impacted area is nearly defined. Although MW08 and MW19 exhibit benzene concentrations of 34.3 µg/L and 329 µg/L, respectively, LTE believes groundwater impact does not extend significantly beyond these monitoring wells. The estimated area of impacted groundwater measures approximately 260 feet by 180 feet. An estimation of the extent of impact is presented on the Benzene Isoconcentration Contour Map (Figure 3).



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 "Brian" and last name "Dodek" 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 "Steve" and last name "Kahn" clearly legible.

Steve Kahn, P.E.
Senior Engineer

Figure 1 - Site Location Map

Figure 2 - Monitoring Well Location Map

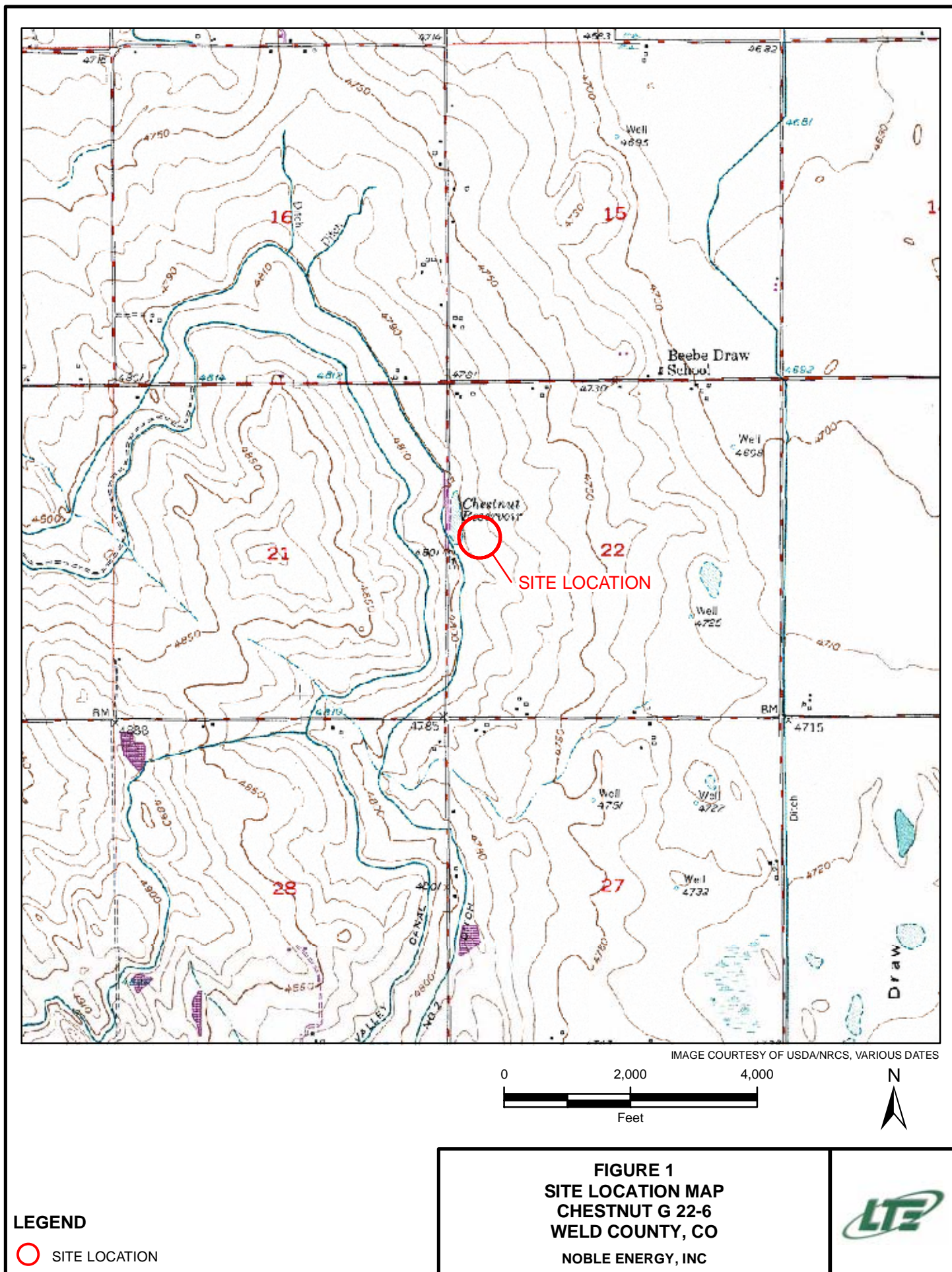
Figure 3 - Benzene Isoconcentration Map

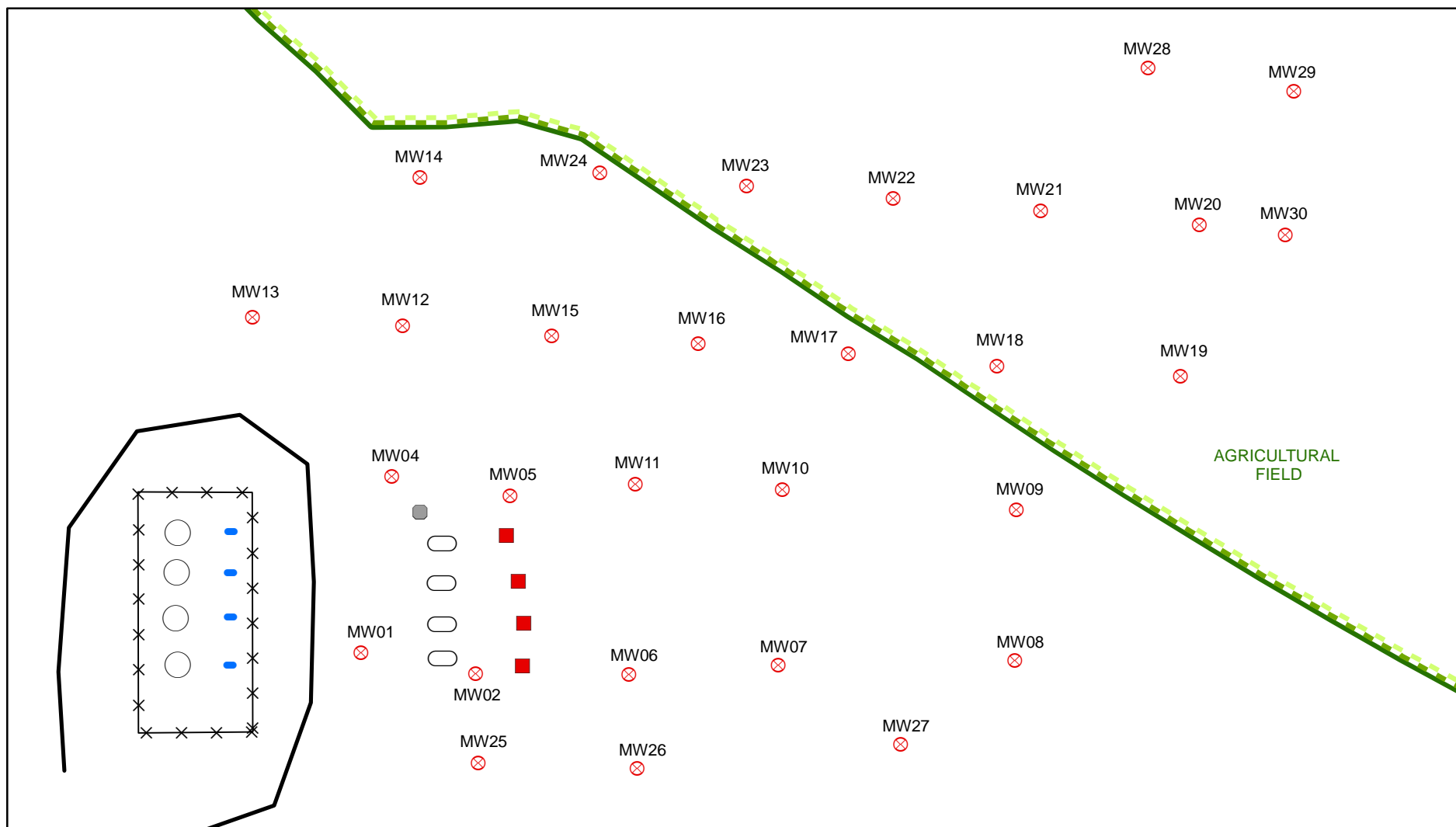
Table 1- Groundwater Analytical Data

Attachment 1 - Soil Boring Logs

Attachment 2 - Laboratory Analytical Reports

FIGURES





LEGEND

- ⊗ MONITORING WELL
- ACCESS ROAD
- BURNER
- METER HOUSE
- WATER VAULT
- OIL AST
- SEPARATOR
- - - AGRICULTURAL FIELD BOUNDARY
- ⊗ 3 FOOT BERM (METAL)

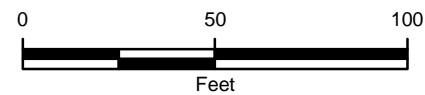
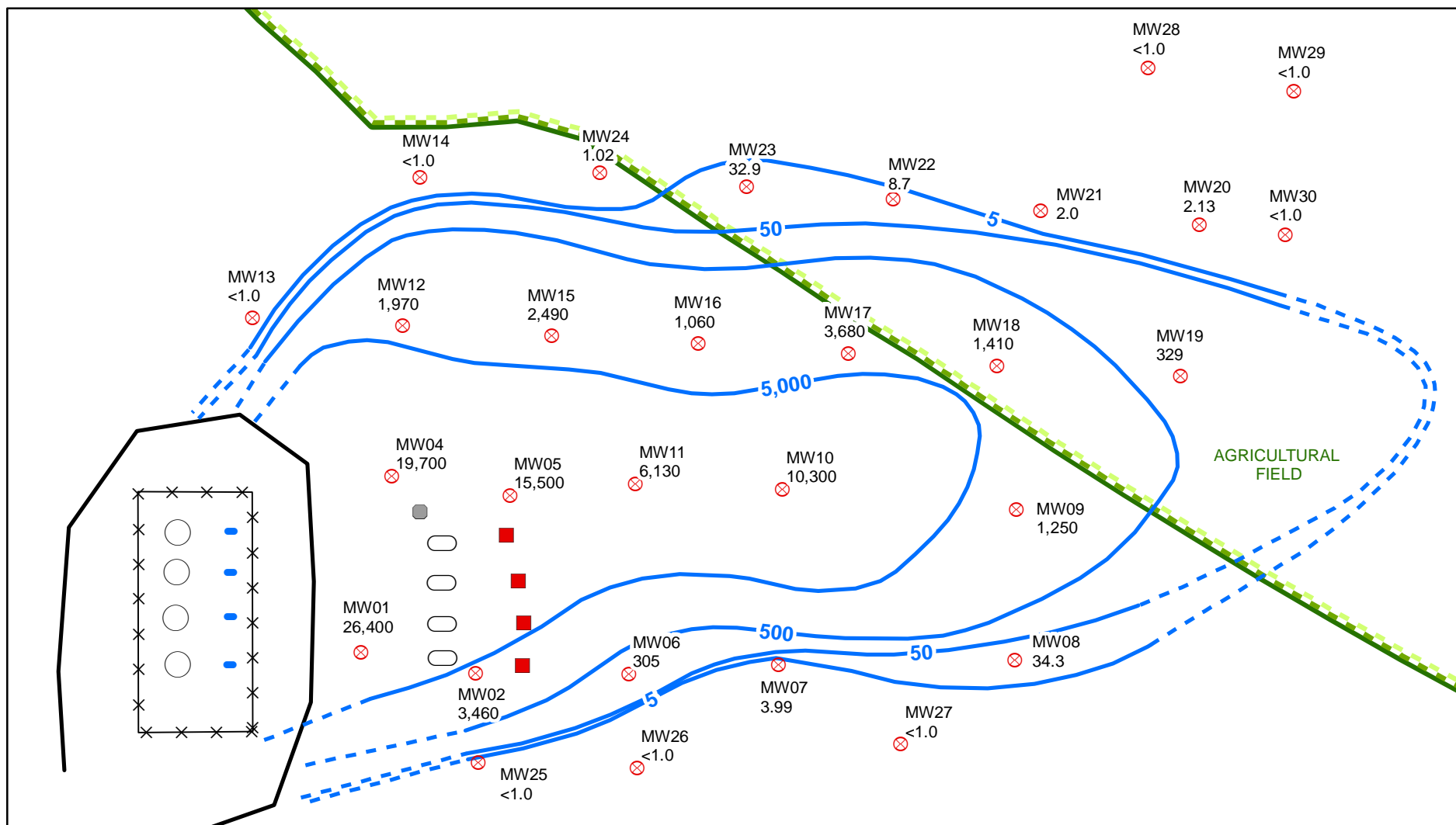


FIGURE 2
MONITORING WELL LOCATION MAP
CHESTNUT G 22-6
WELD COUNTY, CO
NOBLE ENERGY, INC.





LEGEND

- ⊗ MONITORING WELL
- ACCESS ROAD
- BURNER
- METER HOUSE
- WATER VAULT
- OIL AST
- SEPARATOR
- AGRICULTURAL FIELD BOUNDARY
- ⊗ 3 FOOT BERM (METAL)
- BENZENE ISOCONCENTRATION CONTOUR (µg/L)
- - - DASHED WHERE INFERRED
- CONTOUR INTERVAL = ORDER OF MAGNITUDE
- 1.02 BENZENE CONCENTRATION (µg/L)
- µg/L MICROGRAMS PER LITER

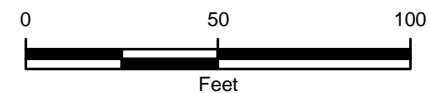


FIGURE 3
BENZENE ISOCONCENTRATION MAP
CHESTNUT G 22-6
WELD COUNTY, CO
NOBLE ENERGY, INC.



TABLE

TABLE 1

GROUNDWATER ANALYTICAL DATA
CHESTNUT G 22-6
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Well ID	Date	Depth to Water/<Product> (feet btoc)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
MW01	1/13/2009	15.11	26,400	8,320	536	8,800
MW02	1/13/2009	15.12	3,460	1,420	199	6,120
MW03	1/13/2009	15.06	11,700	7,860	195	5,950
MW04	1/13/2009	13.13	19,700	7,460	555	9,990
MW05	1/13/2009	14.58	15,500	14,900	412	6,860
MW06	2/19/2009	17.24	305	15.8	167	2,476
MW07	2/19/2009	19.18	3.99	7.09	64.1	288.67
MW08	2/19/2009	18.03	34.3	2,000	202	4,213
MW09	2/19/2009	18.96	1,250	23.0	19.0	25.28
MW10	2/19/2009	17.34	10,300	374	412	2,435
MW11	2/19/2009	17.67	6,130	48.5	43.4	818.6
MW12	2/19/2009	14.81	1,970	257	138	423
MW13	2/19/2009	15.13	<1.0	<1.0	<1.0	<3.0
MW14	2/19/2009	14.32	<1.0	<1.0	<1.0	<3.0
MW15	2/19/2009	14.95	2,490	3,380	150	1,732
MW16	2/19/2009	15.25	1,060	16.2	156	37.5
MW17	2/19/2009	15.93 <15.91>	3,680	9,940	775	1,075
MW18	2/19/2009	16.22	1,410	80.9	51.0	229.6
MW19	2/25/2009	16.67	329	<1.0	1.45	6.65
MW20	2/25/2009	17.55	2.13	2.34	16.0	3.27
MW21	2/25/2009	16.87	2.00	<1.0	<1.0	11.9
MW22	2/25/2009	16.70	8.70	40.7	3.78	22.65
MW23	2/25/2009	15.25	32.9	5.29	9.01	38.36
MW24	2/25/2009	14.87	1.02	<1.0	<1.0	<3.0
MW25	2/25/2009	18.20	<1.0	<1.0	<1.0	4.01
MW26	2/25/2009	18.02	<1.0	<1.0	<1.0	<3.0
MW27	2/25/2009	19.98	<1.0	<1.0	<1.0	<3.0
MW28	2/25/2009	15.82	<1.0	<1.0	<1.0	<3.0
MW29	2/25/2009	16.77	<1.0	<1.0	<1.0	<3.0
MW30	2/25/2009	16.86	<1.0	<1.0	<1.0	<3.0
CDPHE WQCC Reg 41			5.0	560	700	1,400

NOTES:

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

btoc - below top of casing

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

Commission Regulation 41 covering Basic Standards for Groundwater

Bold indicates concentration exceeds WQCC Reg 41.

ug/L - micrograms per liter

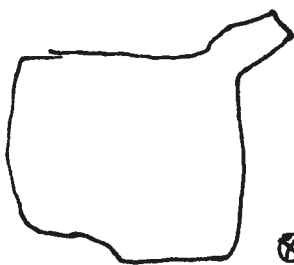
< indicates result is less than the stated laboratory method detection limit



ATTACHMENT 1
SOIL BORING LOGS



Well Location Sketch:



⊗ mw01



Compliance - Engineering - Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

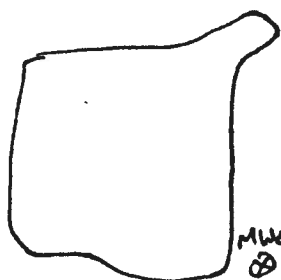
Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW01	Project: Chestnut Gr 22-6
Date: 1/9/09	Project Number: Rep 0839
Logged By: BDD / TED	Drilled By: High Plains (Lenny)
Drilling Method: Direct Push	Sampling Method: Continuous
Gravel Pack: CSSI 10x20	Seal: Bentonite Chips
Casing Type: Sch 40 PVC	Diameter: 1"
Screen Type: Sch 40 PVC	Length: 10'
Slot: 0.01	Diameter: 1"
	Length: 10'
	Hole Diameter: 2"
	Depth to Liquid: 18'
	Total Depth: 18'
	Depth to Water: 6'-8'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2			SP	sand, fine to med grained lt. brown, no odor	
					4			SM	sand, fine to med grained silty, lt. brown, strong odor	
					6			SC	sand, fine to med grained clayey, lt. grey, some odor	
					8			SC	sand, fine to med grained clayey, lt. grey, some odor	
					10			SC	sand, fine to med grained clayey, lt. grey, abundant gravel strong odor	
					12			SC	sand, fine to med grained clayey, lt. brown, no odor	
					14			SC	sand, fine to med grained clayey, lt. brown, no odor	
					16			SC	sand, fine to med grained clayey, lt. brown, no odor	
					18			SC	sand, fine to med grained clayey, lt. brown, no odor	
					20				TD-18'	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

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: MW02 Project: Chestnut Gr22-6

Date: 1/9/09 Project Number: NEP 0839

Logged By: BDD / TED Drilled By: High Plains (Lenny)

Drilling Method: Direct Push Sampling Method: Continuous

Seal: Bentonite Chips Grout: _____

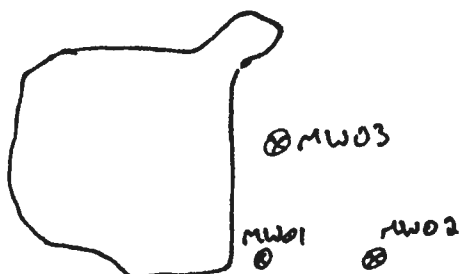
Diameter: 1" Length: 10' Hole Diameter: 2" Depth to Liquid: _____

Diameter: 1" Length: 10' Total Depth: 18' Depth to Water: ~13'

Gravel Pack:
CSSI 10x20Casing Type:
Sch 40 PVCScreen Type: Slot: 0.01
Sch 40 PVC

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
Dry	7.6	N			2			SP	Sand, fine to med grained lt. brown, no odor, trace gravel	
D	14.7	N			4			SC	Sand, fine grained clayey, lt. grey, no odor	
Moist	229	N			6			SM	Sand, fine to med grained silty, lt. grey, no odor	
M	2.2	N			8			SC	Sand, fine grained clayey, lt. brown, no odor	
M	148	N			10			SM	Sand, fine to med grained silty, lt. grey, no odor, trace gravel	
M	1,305	N			12			SM	Sand, fine to med grained silty, lt. grey, no odor, trace gravel	
Wet	1,376	N			14					
W	976	Yes			16			SM	Sand, fine to med grained silty, lt. grey, trace gravel slight odor, black/grey staining	
W	1,006	Y			18					
W	1,204	Y			20					
					22				TD - 20'	
					24				(refusal)	
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

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: MW03 Project: Chestnut G22-6

Date: 11/9/09 Project Number: NEP0839

Logged By: BDD / TED Drilled By: High Plains (Lenny)

Drilling Method: Direct Push Sampling Method: Continuous

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

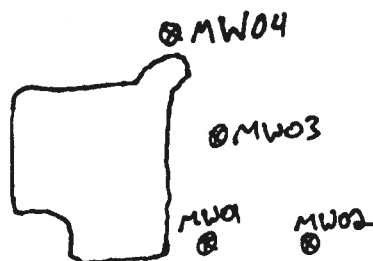
Casing Type: Sch 40 PVC Diameter: 1" Length: 10' Hole Diameter: 2" Depth to Liquid: —

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 10' Total Depth: 18' Depth to Water: undetermined

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Dry	843	Yes		2			SM	Sand, fine to med grained silty, lt. brown, no odor	
	D	1,312	No		4			SP	Sand, fine to med grained trace gravel, lt. brown, no odor	
	D	311	N		6			SM	Sand, fine to med grained silty, lt. brown, no odor	
	D	1,264	N		8					
	D	1,273	N		10					
	D	1,264	N		12					
					14		none	—	No returns	
					16					
	Moist	743	N		18			SM	Sand, fine to med grained silty, lt. brown, slight odor trace gravel	
	M	804	Yes		20					
					22				TD - 20'	
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Boring location is in or near previous pothole location, may not be representative of lithology

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:

MW04

Project:

Chestnut G22-6

Date:

1/9/09

Project Number:

NEP0839

Logged By:

BDD / TED

Drilled By:

High Plains (Lenny)

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

10

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

10

Total Depth:

22.8'

Depth to Water:

~14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
D	8.3	N			2			SM	sand, fine to med. grained silty, lt. brown slight odor	
D	18.7	N			4				trace gravel	
D	829	Y			6					
Moist	1,194	N			8			SC	sand, fine grained clayey, lt. brown, slight odor	
M	158	Y			10					
M	1213	Y			12			SM	sand, fine to med. grained silty, black (staining) strong odor	
M	1,276	Y			14			SC	sand, fine grained clayey, black (staining) moderate odor	
Wet	1,046	Y			16			SM	sand, fine to med. grained silty, black (staining) moderate odor	
W	780	Y			18				trace gravel	
M	1,067	Y			20			SC	sand, fine grained clayey, lt. brown, no odor	
					22				slight staining	
					24				TD-20'	
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

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:	MW05	Project:	Chestnut 6122-6
Date:	1/9/09	Project Number:	NEP 0839
Logged By:	BDD / TED	Drilled By:	High Plains (Lenny)
Drilling Method:	Direct Push	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Diameter:	1"
Screen Type:	Sch 40 PVC	Length:	10
Slot:	0.01	Hole Diameter:	2"
Diameter:	1"	Total Depth:	18'
Length:	10	Depth to Liquid:	
		Depth to Water:	~11'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
Dry	1.6		N		2			SM	Sand, fine to med. grained silty, lt. brown no odor	
Dry	21.6		N		4					
Dry	601		Y		6			SM	Sand, fine to med grained silty, lt. brown, slight odor, trace gravel	
Dry	1,211		Y		8			SC	Sand, fine grained clayey, lt. brown, no odor	
Moist	1,078		Y		10					
Wet	1,115		Y		12			SM	Sand, fine to med grained silty, dark grey, slight odor	
W	1,130		Y		14					
W	887		Y		16			SC	Sand fine to med grained, clayey, dark grey, no odor	
W	1,090		Y		18					
W	910		Y		20			SM	Sand, fine to med grained silty, dark grey, slight odor trace gravel	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW06	Project:	Chestnut G 22-6
Date:	2/16/2009	Project Number:	NEP0839
Logged By:	TED	Drilled By:	Alpine Field Services
Elevation:	Detector:	Drilling Method:	Sampling Method:
	MiniRAE 2000	Direct Push	Continuous
Gravel Pack:	Seal:	Grout:	
CSSI 10x20	Bentonite Chips		
Casing Type:	Diameter:	Length:	Hole Diameter:
Sch 40 PVC	1"		2"
Screen Type:	Slot:	Diameter:	Length:
Sch 40 PVC	0.01	1"	15'
		Total Depth:	18'
		Depth to Liquid:	
		Depth to Water:	~13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist		No		2			CL	clay, sandy, very fine - lt. brown	
					4					
					6			SM	sand, silty, fine to medium grained	
					8					
					10			CL	clay, sandy, lt. brown fine to medium grained	
	M		N		12					
	Wet		Yes		14			SC	sand, clayey, lt. brown staining starting at 14'	
					16			SW	sand, fine to coarse grained heavy staining	
		1,906	Y		18			SC	sand, clayey, fine to coarse grained, heavy staining	
	W		No		20			CL	clay, sandy, lt. brown fine - med. grained	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 20'

Well Location Sketch:

see main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW07 Project: Chestnut G 22-6

Date: 2/16/2009 Project Number: NEP0839

Logged By: TED Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 25' Depth to Water: ~15'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					11050				
	Moist		No		2		CL	clay, sandy, vf-fine grained lt. brown, no odor	
					4		SM	sand, silty, fine to coarse grained lt. brown	
					6				
					8		CL	clay, sandy, vf-fine grained lt. brown, no odor	
			N		10				
					12		SM	sand, silty/clayey fine-coarse grained, lt. brown	
	M				14		CL	clay, sandy, vf-fine	
	Wet		Yes		16		SW	sand v. fine-v. coarse grained some staining	
		361	No		18		SC	sand, clayey, f-medium lens of SW at 18-18 1/2 ft. stained	
			Yes		20		SW	sand, f-coarse, no odor	
			No		22		CL	clay, sandy, vf-medium	
					24		CLS	claystone, silty	
					26			weathered, iron staining	
					28				
	W		N		1130				
					30				
					32			TD-30'	
					34				
					36				
					38				
					40				

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW08 Project: Chestnut G 22-6

Date: 2/16/2009 Project Number: NEP0839

Logged By: TED Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 19' Depth to Water: 16'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					1145 0					
	Moist		N		2			SM	Sand, silty, v.f. - med lt. brown	
					4				Some 1"-2" SW lenses, some gravel	
					6			SC	Sand, v. clayey	
			N		8				v.f. - f	
					10				lt. brown no odor	
					12			SM	Sand, silty, v.f. - f, lt. brown no odor	
			N		14			SC	Sand, clayey + silty, v.f. - f	
	M				16			SM	Sand, silty, v.f. - med	
		16.0			18				lt. brown, no odor	
	Wet		N		1205 20			CL	clay, sandy, v.f. - v. coarse weathered	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 20'

Well Location Sketch:

see main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	Project:
MD09	Chestnut G 22-6
Date:	Project Number:
2/16/2009	NEP0839
Logged By:	Drilled By:
TED	Alpine Field Services

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

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

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

Screen Type:	Slot:	Diameter:	Length:	Total Depth:	Depth to Water:
Sch 40 PVC	0.01	1"	20'	23'	~13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist		N		2			SC	Sand, clayey, vf.-f.	
					4			SM	Sand, silty, some clay vf.-med	
			N		6					
					8					
					10			SC	Sand, clayey, vf.-med Some gravel, no odor	
	M				12					
	Wet				14					
			N		16					
					18					
		6.1			20			CL	clay, sandy, vf.-med lt. brown	
					22					
	W		N		24			CLS	claystone, sandy vf.-fine lt. brown, weathered	
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-25'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MWD (ten) Project: Chestnut G 22-6

Date: 2/16/2009 Project Number: NEP0839

Logged By: TED Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 20' 22" Total Depth: 22' Depth to Water: 14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Mist		No		2			SM	Sand, Silty v.f. - v. coarse some gravel	
					4				Slight odor at 9'	
					6				SC lens at 12'	
					8					
					10					
					12					
	M	416	Yes		14			SW	Sand, v.f. - med, slight odor	
	Wet		No		16			SM	sand, Silty, f. - med	
		2589	Yes		18			CL	Clay, Sandy v.f. - med	
					20				SW lenses 1"-2" black staining + odor 16'-18'	
	W		No		22			CLS	claystone, v.f. - fine, weathered slight odor	
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

see main map

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

ber: MWI

Project:

Chestnut G 22-6

Date: _____

2/16/2009

Project Number:

NEP0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack.

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Diameter:
1"

Length:

Hole Diameter:
2"

Depth to Liquid:

Screen Type:

Slot:

Diameter:

Length:

Total Depth:	
--------------	--

Depth to Water:

Sch 40 PVC

0.01

1"

15

h: $20\frac{1}{2}'$

14

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
	Moist		No		0				
					2	X	SM	Sand, silty vf. - med. no odor lt. brown	
					4	X			
					6	X			
					8	X	SC	sand, clayey, vf. - med lt. brown	
					10	X			
	M		N		12	X	SM	sand, silty, vf. - coarse slight slight odor at 14'	
	Wet	376	Yes		14	X			
		204			16	X	SC	sand, clayey, vf. - med, some gravel, slight odor	
			Y		18	X	CL	clay, sandy, vf. - v. coarse slight odor	
			No		20	X	SW	sand, vf. - v. coarse	
	W		N		22	X	CLS	clay stone, sandy, vf - f. weathered	
					24	X			
					26			TD-25'	
					28				
					30				
					32				
					34				
					36				
					38				
					40				

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW 12	Project:	Chestnut G 22-6
Date:	2/16/2009	Project Number:	NEP0839
Logged By:	TED	Drilled By:	Alpine Field Services

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

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

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

Screen Type:	Slot:	Diameter:	Length:	Total Depth:	Depth to Water:
Sch 40 PVC	0.01	1"	15'	20'	14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0				
	Mist		N _o		2		SM	sand, silty and clayey vf. - med no odor	
					4				
					6		SC	sand, clayey vf. - med no odor	
					8				
					10				
					12		SM	sand, silty, f. - coarse slight odor at 14'-15'	
	M		N		14				
	Wet	1109	Yes		16				
					18		SC	sand, clayey vf. - coarse	
			Y		20				
			N _o		22				
					24		CLS	claystone, sandy vf. - f., weathered	
	W		N		26				
					28				
					30				
					32				
					34				
					36				
					38				
					40				

TD-25'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW 13 Project: Chestnut G 22-6

Date: 2/16/2009 Project Number: NEP0839

Logged By: TED Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 20' Depth to Water: ~13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist		N		2			SC	Sand, clayey vf. - med	
					4					
					6					
					8				lens of CL at 9'	
			N		10					
	M	1.2			12					
	Wet				14			SW	sand, vf. - coarse	
			N		16			CLS	claystone, sandy, vf. - f. weathered	
					18			SMS	sandstone, silty, vf. - med v. poorly cemented	
	W		N		20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 20'

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: mw 14 Project: CheshutDate: 2/16/09 Project Number: NEP0839Logged By: BDD Drilled By: Alpine Field ServicesElevation: Detector: MiniRAE 2000 Drilling Method: Direct Push Sampling Method: ContinuousGravel Pack: CSSI 10x20 Seal: Bentonite Chips Grout: —Casing Type: Sch 40 PVC Diameter: 1" Length: Hole Diameter: 2" Depth to Liquid: —Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 8'15" Total Depth: 20' Depth to Water: ~13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2			SC	fine to med sand, clayey lt. brown no odor	
					4			SC	clay, sandy v. fine to med. lt. brown, no odor	
					6			SC	sand, clayey v. f. - f SW lens 8-9 lt brown	
					8			SM	fine to med grained some gravel sand, silty	
					10			SC	clay, sandy v. f. - med	
					12			SM	sand, silty, f. - med	
					14			SC	sandstone, clayey, weathered	
					16			SC		
					18			SC		
					20			SC		
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

see main map

TD20

Well Location Sketch:

see main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW15 Project: Chestnut G 22-6

Date: 2/17/2009 Project Number: NEP0839

Logged By: TED Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 20' Depth to Water: ~ 13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist		No		2			SM	Sand, silty vf.-med lt. brown no odor	
					4					
					6			CL	clay, sandy vf.-f. lt. brown, no odor	
					8			SC	Sand, clayey vf.-coarse some gravel, lt. brown	
					10					
	M		No		12			SM	Sand, silty, f.-med, lt. brown	
	Wet	1647	Yes	905	14			SC	Sand, clayey, vf.-f. slight staining @ 13'-14' slight odor	
			No		16					
					18			SCS	sandstone, clayey, weathered vf.-f., yellowish orange/brown	
	W		N		20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW16	Project:	Chestnut
Date:	2/17/09	Project Number:	NEP 0839
Logged By:	TED	Drilled By:	Alpine Field Services
Drilling Method:	Direct Push	Sampling Method:	Continuous

Elevation:	Detector:	MiniRAE 2000
------------	-----------	--------------

Gravel Pack:	Seal:	Bentonite Chips	Grout:
--------------	-------	-----------------	--------

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

Screen Type:	Slot:	Diameter:	Length:	Total Depth:	Depth to Water:
Sch 40 PVC	0.01	1"	15'	20'	~14'

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

					0					
	M		N		2			CL	clay, very sandy	
	M		N		4				v. fine to fine, lt. brown	
			N		6				slight odor @ 6'-9'	
		12.3	N		8			SC	sand, clayey, v. fine to	
	M		N		10				lt. brown no odor	
	M		N		12					
	Wet		N		14			CL	clay, sandy lens of sst	
	W		N		16				v. fine to coarse	
	W		N		18				no odor lt. brown	
	W		N		20			CLS	weathered sandy claystone	
					22				no odor limonite stain	
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

mw17

Project:

Chestnut

Date:

2/17/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

15'

Total Depth:

20'

Depth to Water:

~14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		N		2			CL	* Clay, very sandy v. fine to fine brown	
	M		N		4					
	M		N		6				Slight odor/staining	
	M		N		8				7 1/2 - 8'	
	M		N		10				odor 10 - 14 1/2	
	M		N		12					
	M	136	N		14					
	W		N		16			SC	Sand, clayey.	
	W	1382	N		18				v. fine to med.	
	W		N		20			CLS	staining 15 - 17 1/2'	
					22				clay stone, v. sandy/silty	
		1387			24				TD-20	
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW18	Project:	Chestnut
Date:	2/17/09	Project Number:	NEP 0839
Logged By:	TED	Drilled By:	Alpine Field Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Gravel Pack:	CSSI 10x20	Seal:	Bentonite Chips
Casing Type:	Sch 40 PVC	Diameter:	1"
Screen Type:	Sch 40 PVC	Length:	8' 15"
Slot:	0.01	Hole Diameter:	2"
		Total Depth:	20'
		Depth to Liquid:	
		Depth to Water:	13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M				2			CL	clay, sandy v. fine to fine	
	I				4				lt. brown no odor coarse	
					6					
					8					
	M				10					
					12					
	W				14			SC	Sand, clayey v. fine to coarse	
					16				lt. brown no odor	
					18				slight staining + odor	
	W	260			20			CLS	claystone, very silty/sandy	
					22				TD - 20	
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW19	Project: Chestnut
Date: 2/17/09	Project Number: NEP 0839
Logged By: TED	Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC	Slot: 0.01	Diameter: 1"	Length: 15'	Total Depth: 20'	Depth to Water: ~13'
----------------------------	---------------	-----------------	----------------	---------------------	-------------------------

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		N		2			CL	clay, sandy v. fine - fine	
	I		I		4			SC	no odor lt. brown	
	M		N		6				sand, clayey v. fine - med	
	I		I		8				no odor	
	M		N		10			CL	clay, sandy v. fine - fine	
	I		I		12				no odor, lt. brown, brown	
	M		N		14				lens SC at 13-13 1/2	
	W		N		16			SM	sand, silty fine - coarse	
	I		I		18			CL	no odor	
	W		N		20			CLS	clay, sandy v. fine - fine	
					22				lt. brown	
					24				claystone, sandy v. fine - fine	
					26				no odor	
					28					
					30					
					32					
					34					
					36					
					38					
					40					

T₁ - 20'

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:

MW20

Project:

Chestnut

Date:

2/17/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

15'

Total Depth:

20'

Depth to Water:

~14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		N		2			SC	Sand, clayey v. fine	
					4				no odor	
					6					
					8			CL	clayey, sandy v. fine - fine	
					10				slight odor	
			N		12				13' - 15'	
	M		N		14					
	W	9.8	N		16			SW	fine - coarse grained sand	
			N		18					
	W		I		20			CLS	very silty/sandy claystone v. fine - fine	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD 20

Well Location Sketch:

see main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

NW21

Project:

Chestnut

Date:

2/17/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

—

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

—

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

15'

Total Depth:

20

Depth to Water:

~14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Mist		No		2			CL	Clay, sandy/silty, v. fine - fine	
					4			SC	Sand, clayey v. fine fine some gravel	
					6					
					8			CL	Clay, sand v.f. - f lt. brown	
	M		N		10					
					12					
	M		No		14				minor staining 14'-16 slight der 14-17	
	Wet	116	Yes		16			SC	Sand, v. clayey v.f. - f lt. brown	
					18					
	Wet		No		20			SMS	Sand, silty v.f. - f. weathered	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

Well Location Sketch:

See
main
map

Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW 22

Project:

Chestnut

Date:

2/17/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

5' 15'

Total Depth:

20'

Depth to Water:

~ 13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		2		2			CL	3 clay, sandy v.f.f lt. brown no odor	
	M		2		4					
					6					
					8			SC	sand, clayey, some gravel lt. brown, no odor	
	M		2		10			SW	sand fine to v. coarse no odor some gravel	
	M		2		12				SC lens at 12'-13'	
	W				14					
					16					
					18			CL	clay, sandy v.f.f no odor lt brown	
	W		2		20			SMS	sand, silty Stone weathered, no odor	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW 23	Project: Chestnut
Date: 2/17/09	Project Number: NEP 0839
Logged By: TED	Drilled By: Alpine Field Services
Elevation:	Drilling Method: Direct Push
Detector: MiniRAE 2000	Sampling Method: Continuous
Gravel Pack: CSSI 10x20	Seal: Bentonite Chips
Casing Type: Sch 40 PVC	Hole Diameter: 2"
Screen Type: Sch 40 PVC	Depth to Liquid:
Slot: 0.01	Length: 5' 15'
Diameter: 1"	Total Depth: 20'
Diameter: 1"	Depth to Water: ~12'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		N		2			SC	Sand clayey	
	M		N		4				v.f. - coarse no odor	
					6				lt. brown some gravel	
					8				lenses of	
					10				CL (1'-3") no odor	
	M				12				9.5'-10'	
	W				14					
					16			SM	sand, silty v.f. - f clayey	
					18				lt. brown no odor	
	V		N		20			SMS	Siltstone Siltstone	
					22				v.f. - f iron staining	
					24				no odor	
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

see main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW 24 Project: Chestnut

Date: 2/7/09 Project Number: NEP 0839

Logged By: TED Drilled By: Alpine Field Services

Drilling Method: Direct Push Sampling Method: Continuous

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 20' Depth to Water: ~13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Mist		No		2			SC	Sand, clayey v.f.-f	
	M		N		4				no odor, lt. brown	
					6			SW	Sand f.-v. coarse	
					8				no odor some gravel	
					10			SM	Sand silty f.-v. coarse	
	M				12			SC	no odor some gravel	
	W		N		14			SM	Sand clayey v.f.-f	
					16				same odor	
					18				silty v.f.-med. no odor	
	W		N		20			SMS	Siltstone, some clay lense	
					22				TD 20'	
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW 25	Project: Chestnut
Date: 2/17/09	Project Number: NEP 0839
Logged By: TED	Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC	Slot: 0.01	Diameter: 1"	Length: 5' 15"	Total Depth: 20'	Depth to Water: ~13'
-----------------------------------	----------------------	------------------------	--------------------------	----------------------------	--------------------------------

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
M				N	2			SC	Sand v. f - med grained	
M				N	4				lt. brown some gravel	
M				N	6					
M				N	8					
M				N	10			CL	Clay, sandy v.f. - fine	
M				N	12				lt. brown, no odor	
W				N	14			SC	Sand, clayey, v.f. - coarse	
I					16				lt. brown no odor	
					18					
W				N	20			SM	Sand, silty v.f. - lt. grey	
					22				no odor	
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD 20'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW 26

Project:

Chestnut

Date:

2/17/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

± 15'

Total Depth:

20'

Depth to Water:

~ 13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist		N		2			Sc	Sand, clayey v.f. - 8 med no odor lt. brown	
					4					
					6					
					8			CL	Clay, sandy, v.f. - f no odor lt. brown	
					10					
					12					
	M				14			SW	sand, fine - coarse grained no odor	
	Wet		N		16			SC	sand, clayey v.f. - 8 no coarse odor	
					18				Some limonite staining	
					20			CL	Clay, sandy, lt. brown, no odor	
	W		N		22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD - 20'

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW 27

Project:

Chestnut

Date:

2/18/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

15'

Total Depth:

20'

Depth to Water:

~17'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		2		2			SC	Sand, clayey v.f. to fine gravel coarse lt. brown	
	M		3		4					
					6					
					8					
	M		2		10			CL	Clay, sandy v.f. - f no odor, lt. brown	
					12					
					14			SC	Sand, clayey f. - v.c. lt. brown, no odor some gravel	
					16					
	M				18					
	W				20			CL	Clay, sandy v.f. - f no odor lt. brown	
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

Well Location Sketch:

See main
map

Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW 28

Project:

Chestnut

Date:

2/18/09

Project Number:

NEP 0839

Logged By:

TED

Drilled By:

Alpine Field Services

Elevation:

Detector:

MiniRAE 2000

Drilling Method:

Direct Push

Sampling Method:

Continuous

Gravel Pack:

CSSI 10x20

Seal:

Bentonite Chips

Grout:

Casing Type:

Sch 40 PVC

Diameter:

1"

Length:

Hole Diameter:

2"

Depth to Liquid:

Screen Type:

Sch 40 PVC

Slot:

0.01

Diameter:

1"

Length:

8' 15"

Total Depth:

18'

Depth to Water:

~ 13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0	928				
	M		~		2			SC	Sand, clayey v.f.-med	
	M		~		4				lt. brown no odor	
	—		—		6					
	—		—		8					
	M		~		10					
	~		~		12					
	—		~		14			SW	Sand, f.-v. coarse	
	—		~		16				no odor, lt. brown	
	W		~		18			SCS	Sand, clayey v.f.-f.	
					20				no odor, lt. brown/orangish yellow	
					22					
					24				TD 19 1/2'	
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW29 Project: Chestnut

Date: 2/18/09 Project Number: NEP0839

Logged By: BDD Drilled By: Alpine Field Services

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

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

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

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 18' Depth to Water: ~14'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	M		N		2			SC	sand, v.f-f lt. brown clayey no odor	
					4					
					6					
					8					
					10			CL	clay, v. sandy, v. fine-med lt. brown no odor	
					12					
	M		N		14			SW	sand fine to v. coarse some gravel no odor	
	W		N		16			SC	sand, clayey, v.f-f lt. brown	
					18				TD 18' no odor	
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:

See main map



Compliance · Engineering · Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW30 Project: Chestnut G 22-6

Date: 2/18/2009 Project Number: NEP0839

Logged By: TED Drilled By: Alpine Field 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: Hole Diameter: 2" Depth to Liquid:

Screen Type: Sch 40 PVC Slot: 0.01 Diameter: 1" Length: 15' Total Depth: 18' Depth to Water: ~13'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
M			N		2			SC	Sand, v. clayey to clayey	
+					4				vf.-med, lt. brown	
					6				no odor	
			N		8					
					10			SW	Sand, fine-v.coarse	
					12				no odor, lt. brown	
M			N		14			SC	Sand, clayey, v.fine-med.	
Wet					16			SW	no odor, lt. brown	
					18			CL	Sand f-v.coarse	
			N		20			CLS	no odor, lt. brown, some gravel	
W					22				clay, sandy, vf-f, no odor	
					24				lt. brown	
					26				Claystone, weathered	
					28				sandy, vf-f	
					30					
					32					
					34					
					36					
					38					
					40					

TD-20'

ATTACHMENT 2
LABORATORY ANALYTICAL REPORTS





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

February 27, 2009

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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

Attached are the analytical results for Noble – Chestnut G 22-6 received by Origins Laboratory, Inc. 2/25/2009 5:00:00PM. Please let us know if you have any questions, or if we can help with anything at all.

Laboratory Manager
Noelle E Doyle

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22–6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW-19	X902084-01	Water	2/25/2009 1:00:00PM	02/25/2009 17:00
MW-20	X902084-02	Water	2/25/2009 1:10:00PM	02/25/2009 17:00
MW-21	X902084-03	Water	2/25/2009 1:20:00PM	02/25/2009 17:00
MW-22	X902084-04	Water	2/25/2009 1:30:00PM	02/25/2009 17:00
MW-23	X902084-05	Water	2/25/2009 1:40:00PM	02/25/2009 17:00
MW-24	X902084-06	Water	2/25/2009 1:50:00PM	02/25/2009 17:00
MW-25	X902084-07	Water	2/25/2009 2:00:00PM	02/25/2009 17:00
MW-26	X902084-08	Water	2/25/2009 2:10:00PM	02/25/2009 17:00
MW-27	X902084-09	Water	2/25/2009 2:20:00PM	02/25/2009 17:00
MW-28	X902084-10	Water	2/25/2009 2:30:00PM	02/25/2009 17:00
MW-29	X902084-11	Water	2/25/2009 2:40:00PM	02/25/2009 17:00
MW-30	X902084-12	Water	2/25/2009 2:50:00PM	02/25/2009 17:00

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

1902084

page 1 of 2



originslaboratory.com

Client: LT Environmental
Address: 4600 West 60th Ave
Arvada, CO 80003
Telephone Number: 303-433-9788
E-Mail Address: brian@ltenv.com

Project Manager: Brian Dodek
Project Name: Noble - Chestnut G 22-6
Project Number: NEP0839 (Chestnut 22-6)
Samples Collected by: Kelly Fickel

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 #		
MW 19	2.25.09	1300	3	X				X				1
MW 20		1310	3	X				X				2
MW 21		1320	3	X				X				3
MW 22		1330	3	X				X				4
MW 23		1340	3	X				X				5
MW 24		1350	3	X				X				6
MW 25		1400	3	X				X				7
MW 26		1410	3	X				X				8
MW 27		1420	3	X				X				9
MW 28		1430	3	X				X				10
Relinquished by: Btk	Date: 2.25.09	Time: 1700		Received by: [Signature]	Date: [Blank]	Time: [Blank]		Received by: [Signature]	Date: 022509	Time: 1700		Temperature Upon Receipt: 21°C
Relinquished by: [Blank]	Date: [Blank]	Time: [Blank]		Received by: [Signature]	Date: 022509	Time: 1700		Received by: [Signature]	Date: [Blank]	Time: [Blank]		Turn-Around Time: Same Day 24-hr 48-hr 72-hr X

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

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

X402084
page 2 of 2



originslaboratory.com

Client: LT Environmental, Inc.
Address: 4600 W 60th Ave
Telephone Number: 303-433-9784
E-Mail Address: brian.dodek@ltenv.com
Project Manager: Brian Dodek
Project Name: Waste Energy (10/20/22-6)
Project Number: NEP0839
Samples Collected by: Brian Dodek

Sample ID - Description	Date Sampled	Time Sampled	Preservative				Matrix			Analysis	Sample Instructions
			Unpreserved	HCl	HNO ₃	Other -	Groundwater	Soil	Air - Summa Canister #		
MW 29	2.25.09	1440	X								1
MW 30	2.25.09	1450	X								2
											3
											4
											5
											6
											7
											8
											9
											10
Relinquished by: <u>Brian Dodek</u>	Date: <u>2.25.09</u>	Time: <u>1700</u>	Received by: <u>Brian Dodek</u>				Time: <u>1700</u>			Date: <u>2-25-09</u>	Temperature Upon Receipt: <u>8.1°C</u>
Relinquished by: <u>Brian Dodek</u>	Date: <u>2-25-09</u>	Time: <u>1700</u>	Received by: <u>Brian Dodek</u>				Time: <u>1700</u>			Date: <u>2-25-09</u>	Turn Awaiting Time: <u>24-hr</u>
										Date: <u>2-25-09</u>	Standard: <u>72-hr</u>

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

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-19
X902084-01 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.0329	0.00100	mg/L	1	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	0.00145	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	0.00665	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.4 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	98.5 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-20
X902084-02 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00213	0.00100	mg/L	1	9B26002	02/26/2009	02/27/2009
Toluene	0.00234	0.00100	"	"	"	"	"
Ethylbenzene	0.0160	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	0.00327	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.7 %	70.3-123	"	"	02/26/2009
Surrogate: Toluene-d8	103 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-21
X902084-03 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00200	0.00100	mg/L	1	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	0.0119	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.9 %	70.3-123	"	"	"
Surrogate: Toluene-d8	84.4 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	81.4 %	83-123	"	"	" S-GC

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-22
X902084-04 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00870	0.00100	mg/L	1	9B26002	02/26/2009	02/26/2009
Toluene	0.0407	0.00100	"	"	"	"	"
Ethylbenzene	0.00378	0.00100	"	"	"	"	"
o-Xylene	0.00615	0.00100	"	"	"	"	"
m,p-Xylene	0.0165	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.3 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-23
X902084-05 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.0329	0.00100	mg/L	1	9B26002	02/26/2009	02/26/2009
Toluene	0.00529	0.00100	"	"	"	"	"
Ethylbenzene	0.00901	0.00100	"	"	"	"	"
o-Xylene	0.00206	0.00100	"	"	"	"	"
m,p-Xylene	0.0363	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	94.1 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-24
X902084-06 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00102	0.00100	mg/L	1	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	93.8 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-25
X902084-07 (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	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	0.00182	0.00100	"	"	"	"	"
m,p-Xylene	0.00219	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	88.7 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-26
X902084-08 (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	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	93.2 %	70.3-123	"	"	"
Surrogate: Toluene-d8	109 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-27
X902084-09 (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	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	100 %	70.3-123	"	"	"
Surrogate: Toluene-d8	105 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-28
X902084-10 (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	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	94.6 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	96.8 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-29
X902084-11 (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	9B26002	02/26/2009	02/26/2009
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 %	70.3-123	"	"	"
Surrogate: Toluene-d8	99.3 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	96.7 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW-30
X902084-12 (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	9B26002	02/26/2009	02/26/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70.3-123	"	"	"
Surrogate: Toluene-d8	103 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

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

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

Batch 9B26002 – EPA 5030B

Blank (9B26002-BLK1)

Prepared: 02/26/2009 Analyzed: 02/26/2009

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	62.1		ug/L	62.5		99.4	70.3-123			
Surrogate: Toluene-d8	62.8		"	62.5		100	75.9-123			
Surrogate: 4-Bromofluorobenzene	62.3		"	62.5		99.7	83-123			

LCS (9B26002-BS1)

Prepared: 02/26/2009 Analyzed: 02/26/2009

Benzene	0.04	0.001	mg/L	0.0500		74.5	64.2-124			
Toluene	0.04	0.001	"	0.0500		74.8	63.9-119			
Surrogate: 1,2-Dichloroethane-d4	61.2		ug/L	62.5		98.0	70.3-123			
Surrogate: Toluene-d8	60.8		"	62.5		97.2	75.9-123			
Surrogate: 4-Bromofluorobenzene	60.5		"	62.5		96.8	83-123			

Matrix Spike (9B26002-MS1)

Source: X902084-01

Prepared: 02/26/2009 Analyzed: 02/26/2009

Benzene	0.09	0.001	mg/L	0.0500	0.03	112	64.2-124			
Toluene	0.05	0.001	"	0.0500	0.0009	97.9	63.9-119			
Surrogate: 1,2-Dichloroethane-d4	64.1		ug/L	62.5		103	70.3-123			
Surrogate: Toluene-d8	64.2		"	62.5		103	75.9-123			
Surrogate: 4-Bromofluorobenzene	60.0		"	62.5		96.0	83-123			

Matrix Spike Dup (9B26002-MSD1)

Source: X902084-01

Prepared: 02/26/2009 Analyzed: 02/26/2009

Benzene	0.08	0.001	mg/L	0.0500	0.03	101	64.2-124	6.43	25	
Toluene	0.05	0.001	"	0.0500	0.0009	95.8	63.9-119	2.13	25	
Surrogate: 1,2-Dichloroethane-d4	65.7		ug/L	62.5		105	70.3-123			
Surrogate: Toluene-d8	63.1		"	62.5		101	75.9-123			
Surrogate: 4-Bromofluorobenzene	60.5		"	62.5		96.8	83-123			

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

Notes and Definitions

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

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager



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

February 24, 2009

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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

Attached are the analytical results for Noble – Chestnut G 22-6 received by Origins Laboratory, Inc. 2/19/2009 3:53:00PM. Please let us know if you have any questions, or if we can help with anything at all.

Laboratory Manager
Noelle E Doyle

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22–6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW06	X902063-01	Water	2/19/2009 12:40:00PM	02/19/2009 15:53
MW07	X902063-02	Water	2/19/2009 12:45:00PM	02/19/2009 15:53
MW08	X902063-03	Water	2/19/2009 12:50:00PM	02/19/2009 15:53
MW09	X902063-04	Water	2/19/2009 12:55:00PM	02/19/2009 15:53
MW10	X902063-05	Water	2/19/2009 1:00:00PM	02/19/2009 15:53
MW11	X902063-06	Water	2/19/2009 1:05:00PM	02/19/2009 15:53
MW12	X902063-07	Water	2/19/2009 1:10:00PM	02/19/2009 15:53
MW13	X902063-08	Water	2/19/2009 1:15:00PM	02/19/2009 15:53
MW14	X902063-09	Water	2/19/2009 1:20:00PM	02/19/2009 15:53
MW15	X902063-10	Water	2/19/2009 1:25:00PM	02/19/2009 15:53
MW16	X902063-11	Water	2/19/2009 1:30:00PM	02/19/2009 15:53
MW17	X902063-12	Water	2/19/2009 1:35:00PM	02/19/2009 15:53
MW18	X902063-13	Water	2/19/2009 1:40:00PM	02/19/2009 15:53

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

X902063
page 1 of 2



originslaboratory.com

Client: LTE
Address: 4600 W 60th
Arvada 80003
Telephone Number: ON FILE
E-Mail Address: ON FILE

Project Manager: BDD
Project Name: Chestnut G 22-6
Project Number: NEP0839
Samples Collected by: TED

Sample ID - Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other - FCE	Soil	Groundwater	Air - Summa Canister #		
MWD	2/19/09	1240	3	X								
MWD	2/19/09	1245		X								
5' 08"		1250		X								
09		1255		X								
10		1300		X								
11		1305		X								
12		1310		X								
13		1315		X								
14		1320		X								
15		1325		X								
Relinquished by: <u>SD</u>	Date: <u>2/19/09</u>	Time: <u>1533</u>	Time: <u>1533</u>	Received by: <u>[Signature]</u>	Date: <u>2/19/09</u>	Time: <u>1533</u>	Time: <u>1533</u>	Temperature Used: <u>2.7°C</u>	Turn Around Time: <u>24 hr</u>	Standard: <u>72 hr</u>		

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

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

X402063
page 2 of 2



originslaboratory.com

Client: LTE
Address: 4600 W 60th
Arvada 80003
Telephone Number: ON FILE
E-Mail Address: ON FILE
Project Manager: BDD
Project Name: Chestnut G 22-6
Project Number: NEP 0839
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		
MW 16	2/19/09	1330	3	X							1
MW 17	2/19/09	1335	1								2
MW 18	2/19/09	1340	1								3
											4
											5
											6
											7
											8
											9
											10
Relinquished by: <u>SPD</u>	Date: <u>2/19/09</u>	Time: <u>1553</u>		Received by: <u>[Signature]</u>	Date: <u>2/19/09</u>	Time: <u>1553</u>		Temperature Upon Receipt: <u>27°C</u>			
Relinquished by:	Date:	Time:		Received by:	Date:	Time:		Turn Around Time: <u>24-hr</u>			
								Same Day			
								48-hr			
								72-hr			
								Standard			

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

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW06
X902063-01 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.305	0.0100	mg/L	10	9B19001	02/20/2009	02/23/2009
Toluene	0.0158	0.00100	"	1	"	"	02/21/2009
Ethylbenzene	0.167	0.00100	"	"	"	"	"
o-Xylene	0.226	0.0100	"	10	"	"	02/23/2009
m,p-Xylene	2.25	0.0200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	109 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	97.1 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW07

X902063-02 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.00399	0.00100	mg/L	1	9B19001	02/20/2009	02/21/2009
Toluene	0.00709	0.00100	"	"	"	"	"
Ethylbenzene	0.0641	0.00100	"	"	"	"	"
o-Xylene	0.00167	0.00100	"	"	"	"	"
m,p-Xylene	0.287	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	108 %	70.3-123	"	"	"
Surrogate: Toluene-d8	101 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW08
X902063-03 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	0.0343	0.00100	mg/L	1	9B19001	02/20/2009	02/21/2009
Toluene	2.00	0.0100	"	10	"	"	02/23/2009
Ethylbenzene	0.202	0.00100	"	1	"	"	02/21/2009
o-Xylene	0.983	0.0100	"	10	"	"	02/23/2009
m,p-Xylene	3.23	0.0200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	108 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	97.5 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	97.8 %	83-123	"	"	"

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW09

X902063-04 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	1.25	0.0100	mg/L	10	9B19001	02/20/2009	02/23/2009
Toluene	0.0230	0.00100	"	1	"	"	02/21/2009
Ethylbenzene	0.0190	0.00100	"	"	"	"	"
o-Xylene	0.00508	0.00100	"	"	"	"	"
m,p-Xylene	0.0202	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	106 %	70.3-123	"	"	"
Surrogate: Toluene-d8	102 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW10
X902063-05 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	10.3	0.200	mg/L	200	9B19001	02/20/2009	02/24/2009
Toluene	0.374	0.0200	"	20	"	"	02/23/2009
Ethylbenzene	0.412	0.0200	"	"	"	"	"
o-Xylene	0.445	0.0200	"	"	"	"	"
m,p-Xylene	1.99	0.400	"	200	"	"	02/24/2009

Surrogate: 1,2-Dichloroethane-d4	103 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	97.4 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW11

X902063-06 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	6.13	0.200	mg/L	200	9B19001	02/20/2009	02/24/2009
Toluene	0.0485	0.00100	"	1	"	"	02/21/2009
Ethylbenzene	0.0434	0.00100	"	"	"	"	"
o-Xylene	0.0136	0.00100	"	"	"	"	"
m,p-Xylene	0.805	0.0200	"	10	"	"	02/23/2009

Surrogate: 1,2-Dichloroethane-d4	106 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	103 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	98.8 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW12
X902063-07 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	1.97	0.0100	mg/L	10	9B19001	02/20/2009	02/24/2009
Toluene	0.257	0.0100	"	"	"	"	"
Ethylbenzene	0.138	0.00100	"	1	"	"	02/21/2009
o-Xylene	0.0630	0.00100	"	"	"	"	"
m,p-Xylene	0.360	0.0200	"	10	"	"	02/24/2009

Surrogate: 1,2-Dichloroethane-d4	104 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	103 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW13

X902063-08 (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	9B19001	02/20/2009	02/24/2009
Toluene	ND	0.00100	"	"	"	"	02/21/2009
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	02/24/2009

Surrogate: 1,2-Dichloroethane-d4	105 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	103 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW14
X902063-09 (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	9B19001	02/20/2009	02/21/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70.3-123	"	"	"
Surrogate: Toluene-d8	104 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW15
X902063-10 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	2.49	0.0500	mg/L	50	9B19001	02/20/2009	02/24/2009
Toluene	3.38	0.0500	"	"	"	"	"
Ethylbenzene	0.150	0.0500	"	"	"	"	"
o-Xylene	0.332	0.0500	"	"	"	"	"
m,p-Xylene	1.40	0.100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	107 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	97.1 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	98.9 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW16
X902063-11 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	1.06	0.0500	mg/L	50	9B19001	02/20/2009	02/24/2009
Toluene	0.0162	0.00100	"	1	"	"	02/21/2009
Ethylbenzene	0.156	0.00100	"	"	"	"	"
o-Xylene	0.00250	0.00100	"	"	"	"	"
m,p-Xylene	0.0350	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70.3-123	"	"	"
Surrogate: Toluene-d8	101 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW17

X902063-12 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	3.68	0.0500	mg/L	50	9B19001	02/20/2009	02/24/2009
Toluene	9.94	0.0500	"	"	"	"	"
Ethylbenzene	0.775	0.0500	"	"	"	"	"
o-Xylene	1.93	0.0500	"	"	"	"	"
m,p-Xylene	8.82	0.100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70.3-123	"	"	02/21/2009
Surrogate: Toluene-d8	92.0 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW18
X902063-13 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	1.41	0.0500	mg/L	50	9B19001	02/20/2009	02/24/2009
Toluene	0.0809	0.00100	"	1	"	"	02/21/2009
Ethylbenzene	0.0510	0.00100	"	"	"	"	"
o-Xylene	0.0676	0.00100	"	"	"	"	"
m,p-Xylene	0.162	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	104 %	70.3-123	"	"	"
Surrogate: Toluene-d8	103 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

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

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

Batch 9B19001 – EPA 5030B

Blank (9B19001–BLK1)

Prepared: 02/20/2009 Analyzed: 02/20/2009

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	64.5		ug/L	62.5		103	70.3-123			
Surrogate: Toluene-d8	64.6		"	62.5		103	75.9-123			
Surrogate: 4-Bromofluorobenzene	61.5		"	62.5		98.4	83-123			

Blank (9B19001–BLK2)

Prepared: 02/20/2009 Analyzed: 02/20/2009

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	64.7		ug/L	62.5		104	70.3-123			
Surrogate: Toluene-d8	65.3		"	62.5		104	75.9-123			
Surrogate: 4-Bromofluorobenzene	63.3		"	62.5		101	83-123			

LCS (9B19001–BS1)

Prepared: 02/20/2009 Analyzed: 02/20/2009

Benzene	0.05	0.001	mg/L	0.0500		96.3	64.2-124			
Toluene	0.05	0.001	"	0.0500		102	63.9-119			
Surrogate: 1,2-Dichloroethane-d4	62.4		ug/L	62.5		99.9	70.3-123			
Surrogate: Toluene-d8	65.8		"	62.5		105	75.9-123			
Surrogate: 4-Bromofluorobenzene	70.5		"	62.5		113	83-123			

LCS (9B19001–BS2)

Prepared: 02/20/2009 Analyzed: 02/20/2009

Benzene	0.04	0.001	mg/L	0.0500		90.1	64.2-124			
Toluene	0.05	0.001	"	0.0500		93.3	63.9-119			

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

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

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

Batch 9B19001 – EPA 5030B

LCS (9B19001–BS2)

Prepared: 02/20/2009 Analyzed: 02/20/2009

Surrogate: 1,2-Dichloroethane-d4	65.8		ug/L	62.5		105	70.3–123
Surrogate: Toluene-d8	64.9		"	62.5		104	75.9–123
Surrogate: 4-Bromofluorobenzene	63.3		"	62.5		101	83–123

Matrix Spike (9B19001–MS1)

Source: X902054–02

Prepared: 02/20/2009 Analyzed: 02/20/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	101	64.2–124
Toluene	0.05	0.001	"	0.0500	0.0006	108	63.9–119
Surrogate: 1,2-Dichloroethane-d4	61.5		ug/L	62.5		98.4	70.3–123
Surrogate: Toluene-d8	66.4		"	62.5		106	75.9–123
Surrogate: 4-Bromofluorobenzene	71.6		"	62.5		115	83–123

Matrix Spike (9B19001–MS2)

Source: X902054–03

Prepared: 02/20/2009 Analyzed: 02/20/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	96.8	64.2–124
Toluene	0.05	0.001	"	0.0500	ND	98.2	63.9–119
Surrogate: 1,2-Dichloroethane-d4	66.8		ug/L	62.5		107	70.3–123
Surrogate: Toluene-d8	63.4		"	62.5		101	75.9–123
Surrogate: 4-Bromofluorobenzene	63.6		"	62.5		102	83–123

Matrix Spike Dup (9B19001–MSD1)

Source: X902054–02

Prepared: 02/20/2009 Analyzed: 02/20/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	101	64.2–124	0.397	25
Toluene	0.05	0.001	"	0.0500	0.0006	104	63.9–119	4.35	25
Surrogate: 1,2-Dichloroethane-d4	66.2		ug/L	62.5		106	70.3–123		
Surrogate: Toluene-d8	62.5		"	62.5		100	75.9–123		
Surrogate: 4-Bromofluorobenzene	64.5		"	62.5		103	83–123		

Matrix Spike Dup (9B19001–MSD2)

Source: X902054–03

Prepared: 02/20/2009 Analyzed: 02/20/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	94.4	64.2–124	2.53	25
Toluene	0.05	0.001	"	0.0500	ND	93.5	63.9–119	4.90	25
Surrogate: 1,2-Dichloroethane-d4	67.2		ug/L	62.5		108	70.3–123		

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

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

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

Batch 9B19001 – EPA 5030B

Matrix Spike Dup (9B19001-MSD2)

Source: X902054-03

Prepared: 02/20/2009 Analyzed: 02/20/2009

Surrogate: Toluene-d8	63.9	ug/L	62.5	102	75.9-123
Surrogate: 4-Bromofluorobenzene	64.3	"	62.5	103	83-123

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

Notes and Definitions

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

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager



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

January 19, 2009

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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

Attached are the analytical results for Noble – Chestnut G 22-6 received by Origins Laboratory, Inc. 1/14/2009 9:25:00AM. Please let us know if you have any questions, or if we can help with anything at all.

Laboratory Manager
Noelle E Doyle

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22–6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW01	X901031-01	Water	1/13/2009 1:00:00PM	01/14/2009 09:25
MW02	X901031-02	Water	1/13/2009 2:10:00PM	01/14/2009 09:25
MW03	X901031-03	Water	1/13/2009 2:30:00PM	01/14/2009 09:25
MW04	X901031-04	Water	1/13/2009 1:55:00PM	01/14/2009 09:25
MW05	X901031-05	Water	1/13/2009 2:40:00PM	01/14/2009 09:25

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble - Chestnut G 22-6

X901031

page 1 of 1



originslaboratory.com

Client: LTE
Address: 4600 West 60th
Telephone Number: Arvada 80003
E-Mail Address: ONFILE
Project Manager: BDD
Project Name: Chestnut G 22-6
Project Number: NEP0839
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 #		
MW01	1/13/09	1300	3	X	X	X	X	X	X	X	BTX 8260 GTEX 80157	1
MW02	1/13/09	1410	3	X	X	X	X	X	X	X		2
MW03	1/13/09	1430	3	X	X	X	X	X	X	X		3
MW04	1/13/09	1355	3	X	X	X	X	X	X	X		4
MW05	1/13/09	1440	3	X	X	X	X	X	X	X		5
TL51	1/13/09	1501	1	X	X	X	X	X	X	X		6
<u>TED</u> per request of B. Dodek. 1-19-09												7
												8
												9
												10
Relinquished by: <u>J=Q</u>	Date: <u>1/14/09</u>	Time: <u>9:05</u>	Received by: <u>[Signature]</u>	Date: <u>1/14/09</u>	Time: <u>9:05</u>	Turn Aged Time: <u>24 hr</u>	Standard: <u>72 hr</u>					
Relinquished by: <u>[Signature]</u>	Date: <u>1/14/09</u>	Time: <u>9:05</u>	Received by: <u>[Signature]</u>	Date: <u>1/14/09</u>	Time: <u>9:05</u>	Turn Aged Time: <u>24 hr</u>	Standard: <u>72 hr</u>					

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

Origins Laboratory, Inc.

Noelle E Doyle

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW01

X901031-01 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	26.4	0.200	mg/L	200	9A15003	01/15/2009	01/19/2009
Toluene	8.32	0.0500	"	50	"	"	01/17/2009
Ethylbenzene	0.536	0.0500	"	"	"	"	"
o-Xylene	1.59	0.0500	"	"	"	"	"
m,p-Xylene	7.21	0.100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	75.5 %	70.3-123	"	"	"
Surrogate: Toluene-d8	106 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW02
X901031-02 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	3.46	0.0500	mg/L	50	9A15003	01/15/2009	01/19/2009
Toluene	1.42	0.0100	"	10	"	"	01/17/2009
Ethylbenzene	0.199	0.00100	"	1	"	"	01/15/2009
o-Xylene	1.25	0.0100	"	10	"	"	01/17/2009
m,p-Xylene	4.87	0.100	"	50	"	"	01/19/2009

Surrogate: 1,2-Dichloroethane-d4	104 %	70.3-123	"	"	01/15/2009
Surrogate: Toluene-d8	85.1 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	121 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW03

X901031-03 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	11.7	0.100	mg/L	100	9A15003	01/15/2009	01/19/2009
Toluene	7.86	0.100	"	"	"	"	"
Ethylbenzene	0.195	0.00100	"	1	"	"	01/15/2009
o-Xylene	1.15	0.0200	"	20	"	"	01/17/2009
m,p-Xylene	4.80	0.0400	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	80.8 %	70.3-123	"	"	"
Surrogate: Toluene-d8	105 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	83-123	"	"	"

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW04

X901031-04 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	19.7	0.100	mg/L	100	9A15003	01/15/2009	01/17/2009
Toluene	7.46	0.100	"	"	"	"	"
Ethylbenzene	0.555	0.100	"	"	"	"	"
o-Xylene	1.73	0.100	"	"	"	"	"
m,p-Xylene	8.26	0.200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	64.9 %	70.3-123	"	"	"	S-GC
Surrogate: Toluene-d8	111 %	75.9-123	"	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	83-123	"	"	"	"

Origins Laboratory, Inc.

Noelle E Doyle, Laboratory Manager

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

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

MW05
X901031-05 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

BTEX by EPA 8260B

Benzene	15.5	0.100	mg/L	100	9A15003	01/15/2009	01/19/2009
Toluene	14.9	0.100	"	"	"	"	"
Ethylbenzene	0.412	0.0500	"	50	"	"	01/17/2009
o-Xylene	1.24	0.0500	"	"	"	"	"
m,p-Xylene	5.62	0.100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	86.2 %	70.3-123	"	"	"
Surrogate: Toluene-d8	106 %	75.9-123	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	83-123	"	"	"

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
 Project Number: NEP0839
 Project: Noble – Chestnut G 22-6

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

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

Batch 9A15003 – EPA 5030B

Blank (9A15003-BLK1)

Prepared: 01/15/2009 Analyzed: 01/15/2009

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	62.3		ug/L	62.5		99.7	70.3-123			
Surrogate: Toluene-d8	62.6		"	62.5		100	75.9-123			
Surrogate: 4-Bromofluorobenzene	69.4		"	62.5		111	83-123			

LCS (9A15003-BS1)

Prepared: 01/15/2009 Analyzed: 01/15/2009

Benzene	0.04	0.001	mg/L	0.0500		89.6	64.2-124			
Toluene	0.05	0.001	"	0.0500		101	63.9-119			
Surrogate: 1,2-Dichloroethane-d4	56.6		ug/L	62.5		90.5	70.3-123			
Surrogate: Toluene-d8	62.5		"	62.5		99.9	75.9-123			
Surrogate: 4-Bromofluorobenzene	65.1		"	62.5		104	83-123			

Matrix Spike (9A15003-MS1)

Source: X901032-03

Prepared: 01/15/2009 Analyzed: 01/15/2009

Benzene	0.04	0.001	mg/L	0.0500	ND	86.2	64.2-124			
Toluene	0.05	0.001	"	0.0500	0.0007	90.2	63.9-119			
Surrogate: 1,2-Dichloroethane-d4	59.3		ug/L	62.5		94.9	70.3-123			
Surrogate: Toluene-d8	61.7		"	62.5		98.7	75.9-123			
Surrogate: 4-Bromofluorobenzene	60.6		"	62.5		97.0	83-123			

Matrix Spike Dup (9A15003-MSD1)

Source: X901032-03

Prepared: 01/15/2009 Analyzed: 01/15/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	99.7	64.2-124	14.4	25	
Toluene	0.05	0.001	"	0.0500	0.0007	102	63.9-119	11.6	25	
Surrogate: 1,2-Dichloroethane-d4	61.2		ug/L	62.5		98.0	70.3-123			
Surrogate: Toluene-d8	60.3		"	62.5		96.4	75.9-123			
Surrogate: 4-Bromofluorobenzene	63.4		"	62.5		102	83-123			

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager

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



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

Brian Dodek
Project Number: NEP0839
Project: Noble – Chestnut G 22-6

Notes and Definitions

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

Origins Laboratory, Inc.

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

Noelle E Doyle, Laboratory Manager