

Site Investigation Report Northeast Auto Accessory 684 Portland Street St. Johnsbury, Vermont SMS #20114197



#### SITE INVESTIGATION REPORT NORTHEAST AUTO ACCESSORY 684 PORTLAND STREET ST. JOHNSBURY VERMONT, 05819

June 26, 2012

Prepared For:
Ronney Lyster
Post Office Box 601
Littleton, New Hampshire 03561
(603) 444-5678
Contact: Mr. Ronney Lyster

Prepared by: Horizons Engineering, Inc. 34 School Street Littleton, NH 03561 (603) 444-4111

**Contact: Jennifer Stonecipher** 

**PROJECT NO. 11217 Horizons Engineering, Inc.** 

17 Sunset Terrace Newport, VT 05855 Ph.: 802-334-6434 Fax: 802-334-5602 34 School Street Littleton, NH 03561 Ph: 603-444-4111 Fax: 603-444-1343 www.horizonsengineering.com 35 Railroad Row, Suite #204 White River Junction, VT 05001 Ph: 802-296-8300 Fax: 802-296-8301



34 SCHOOL STREET • LITTLETON, NH 03561 • PHONE 603-444-4111 • FAX 603-444-1343 • www.horizonsengineering.com

Project No. 11217 June 26, 2012

Mr. Tim Cropley Hazardous Materials Specialist Agency of Natural Resources, Waste Management Division 103 South Main Street/West Building Waterbury, VT 05671-0404

**Subject:** Site Investigation Report - Northeast Auto Accessory

684 Portland Street, St. Johnsbury, Vermont

SMS #20114197

Dear Mr. Cropley:

Horizons Engineering, Inc., (Horizons) has completed a Site Investigation at the 684 Portland Street Property located in St. Johnsbury, VT (the "Site") per the requirements of the August 19, 2011 Agency of Natural Resources, Department of Environmental Conservation, (VTDEC) letter issued to Northeast Auto Accessory. This report summarizes our field and research methods, results, and recommendations. As part of this assessment, four monitoring wells were installed and six additional soil borings were advanced in an effort to assess potential soils and groundwater impacts to the Site associated with former underground storage tanks (USTs).

Monitoring well locations were chosen by Horizons Engineering and approved by the VTANR prior to installation. Soil samples were collected from MW-2, MW-3 and MW-4, and SB-7. A soil sample was not collected from MW-1 as it was a background well with 0 ppm readings utilizing the PID. Groundwater samples were collected from MW-1, MW-2, and MW-4. MW-3 had 1.5' of free product at the time of sampling, therefore was not sampled. Soils were analyzed for the following: VOCs via EPA Method 8260B and TPH via Method 8015-DRO. Groundwater was analyzed for the following: VOCs via EPA Method 8260B and TPH via Method 8015-DRO. The Site location is shown on the **Site Locus Map** which is appended to this report. An **Aerial Photo**, which has also been provided, shows the approximate current configuration of the Site. **Photos** of the site are included.

17 Sunset Terrace Newport, VT 05855 Ph.: 802-334-6434 Fax: 802-334-5602 34 School Street Littleton, NH 03561 Ph: 603-444-4111 Fax: 603-444-1343 www.horizonsengineering.com 35 Railroad Row, Suite #204 White River Junction, VT 05001 Ph: 802-296-8300 Fax: 802-296-8301

#### 1.0 Site Description/History

The Site consists of one lot of record referred to as St. Johnsbury Tax ID 027-001-044-000. The Site contains approximately 1.29 acres and is operated by RHTL Partners LLC, c/o L & T Auto Group as Northeast Auto Accessory. The Site was purchased by the current owner in 2004.

The Site is located on the south side of Portland Street.

Abutting properties to the south include Lafayette Street followed by two residential properties, one owned by Armand Wright and located at 767 Concord Avenue and the second owned by David and Henrietta Lenton and located at 468 Lafayette Street. Abutting properties to the east include commercial properties: DG Roofing, 714 Portland Street, and Warren-Hardman Limited Liability Company, 744 Portland Street. Abutting properties to the west include a commercial property referred to as Coles and owned by Richard and Kathleen Martel located at 642 Portland Street. Abutting properties to the north include Portland Street followed by a commercial property owned by Steven Dolgin and located at 667 Portland Street and a commercial property owned my Murphy Realty Company and located at 709 Portland Street.

Site topography is generally level across the entire Site. The nearest surface water body is the Moose River located approximately 800 feet north of the Site.

An interview was conducted with St. Johnsbury town personnel. Reportedly, there had been complaints within the Portland Street area of people smelling petroleum in their basement floor drains after heavy rains. Town personnel also informed Horizons that during a utility pole replacement that occurred on the northeast portion of the Site, heavy petroleum odors were evident.

The subject Site, as well as neighboring properties, are connected to municipal water and sewer.

#### 2.0 Field Methods

On March 20, 2012 Horizons observed the advancement of ten soil borings and the installation of four monitoring wells at the Site by Northern Test Boring of Gorham, Maine utilizing a Dietrich D-50 drill rig. The monitoring well locations were selected in an effort to assess the areas of concern. Locations were described by VTANR in an August 19, 2011 comment letter. The monitoring well locations were selected by Horizons personnel and approved by the VTANR prior to installation. The locations of the monitoring wells are shown on the attached **Site Plan**.

Wells were installed using 4 ¼" hollow stem augers. Field screening was performed during installation of all monitoring wells and advancement of all soil borings. Materials consisted of medium to coarse sands with some silt (**see attached soil boring and monitoring well logs**) at all soil borings. Groundwater was encountered between five and ten feet below grade across the Site. Wells ranged in depth from twelve to seventeen feet below grade. Soil samples were obtained from each split spoon sample and field screened for the presence of

Volatile Organic Compounds (VOCs) with a Photo Ionization Detector (PID),

ThermoEnvironmental Model 580B. The results from this field screening and a description of the soils are indicated on the **Soil Boring Logs** which are attached to this report. PID readings ranged from 0.0 ppm to 394ppm. Based on PID readings, laboratory soil analysis was performed at three monitoring well locations (MW-2, MW-3, and MW-4) as well as one soil boring location (SB-7).

Soil samples were packaged on ice in a shipping cooler and transported to Eastern Analytical, Inc. under chain of custody documentation. The soil samples were submitted for laboratory analysis for VOCs via EPA method 8260B, and TPH via 8015-DRO.

Groundwater samples were collected on April 13, 2012. A water level meter was utilized to measure depth to groundwater in all four wells prior to sampling. The wells were purged of approximately three well volumes of water and allowed to recharge prior to collection of the groundwater sample. Samples were collected from MW-1, MW-2, and MW-4. MW-3 had 1.5' of free product at the time of sampling, therefore it was not sampled. Samples collected from MW-1, MW-2, and MW-4 were analyzed for EPA Method 8260B for VOCs and 8015 DRO for TPH. Groundwater was encountered at an average of five feet below grade during monitoring well sampling.

#### 3.0 Results

#### 3.1 Soil

Soils observed during the advancement of monitoring wells MW-1 through MW-4 as well as soil borings consisted primarily of medium to coarse sands with some silt. The water table was generally encountered between 5 and 10 feet below ground surface. PID readings ranged from 0.0 to 394 ppm. The following soil boring locations had PID readings at greater than 10 ppm: MW-2 (44 ppm @ 5-7'), MW-3 (84 ppm at 10-12' and 14 ppm at 15-17'), MW-4 (82 ppm at 6.5-7', 112 ppm at 10-12' and 16 ppm at 12-14'), SB-5 (89 ppm @ 6.5-7', 81 ppm @ 10-12'), SB-6 (62 ppm @ 6.5-7', 42 ppm @ 10-11.5'), SB-7 (74 ppm at 0-3', 84ppm at 3-5', 82 ppm @ 5-7', 42 ppm @ 10-11.5'), SB-8 (142 ppm @ 0-5', 128 ppm @ 5-8'), SB-10 (48 ppm @ 5-7', 78 ppm @ 10-12').

Target analytes were not detected at concentrations exceeding applicable Vermont Risk Based Standards in any of the soil samples submitted for laboratory analysis. VOCs were detected above laboratory limits in the following locations: MW-3, MW-4 and SB-7. TPH-DRO was detected, yet below Vermont Risk Based Standards within MW-2, MW-3 and MW-4. A table summarizing the laboratory analytical results and the laboratory analytical report is appended.

#### 3.2 Groundwater

MW-1 remained at below detectable levels for all constituents analyzed. MW-2 exceeded the Preventive Action Goal, yet remained below the Enforcement Standard for 1,2,4-trimethylbenzene. MW-4 exceeded the Enforcement Standard for the following: benzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and naphthalene. MW-4 exceeded the Preventive Action Goal for MtBE yet remained below the Enforcement Standard. Free Product was detected at a 1.5' depth in MW-3 therefore was not sampled.

#### 4.0 <u>Conclusions</u>

Four monitoring wells were installed at the subject Site on March 20, 2012. Locations were approved by the VTANR prior to installation.

Medium to coarse sands with some silt were observed across the Site, with groundwater encountered during drilling at five to ten feet below grade. Groundwater was encountered at an average of five feet below grade during monitoring well sampling.

An additional six soil borings were advanced on the north side of the building in an effort to assess potential soils and groundwater impacts to the Site associated with former on site USTs. Soil borings were located north and east of the former UST locations. During the advancement of the soil borings, an additional underground storage tank (gasoline) was located east of the former heating oil tank. PID readings within the locations of SB-6, SB-7, and SB-8 had an "old turpentine" smell to them, likely contributed to the gasoline tank located within the SB-8 location.

The following soil borings locations had PID readings at greater than 10 ppm: MW-2 (44 ppm @ 5-7'), MW-3 (84 ppm at 10-12' and 14 ppm at 15-17'), MW-4 (82 ppm at 6.5-7', 112 ppm at 10-12' and 16 ppm at 12-14'), SB-5 (89 ppm @ 6.5-7', 81 ppm @ 10-12'), SB-6 (62 ppm @ 6.5-7', 42 ppm @ 10-11.5'), SB-7 (74 ppm at 0-3', 84ppm at 3-5', 82 ppm @ 5-7', 42 ppm @ 10-11.5'), SB-8 (142 ppm @ 0-5', 128 ppm @ 5-8'), SB-10 (48 ppm @ 5-7', 78 ppm @ 10-12').

Soil samples were submitted for laboratory analysis for VOCs via EPA Method 8260B, and TPH via 8015-DRO from the following locations: MW-2, MW-3, MW-4 and SB-7. Laboratory results indicated that the State of Vermont Risk Based Soil Standards were not exceeded in soil samples collected.

Groundwater samples were collected from MW-1, MW-2 and MW-4 and analyzed EPA Method 8260B for VOCs and 8015 DRO for TPH. Groundwater laboratory results indicate that Vermont Enforcement Standards were exceeded in the samples collected from MW-4 for benzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene. Groundwater laboratory results indicate that the Vermont Preventive Action Goals were exceeded in MW-4 for MtBE and in MW-2 for 1,2,4-trimethylebenzene.

Free product was observed within MW-3 at a 1.5 foot depth.

Based on the free product discovered at MW-3, there may be concerns regarding vapor intrusion at the abutting properties to the west including a commercial property referred to as Coles and owned by Richard and Kathleen Martel located at 642 Portland Street as well as properties to the north including Portland Street (and utilities beneath the street) followed by a commercial property owned by Steven Dolgin and located at 667 Portland Street and a commercial property owned my Murphy Realty Company and located at 709 Portland Street.

#### 5.0 Recommendations

Horizons recommend the installation of two additional monitoring wells on the north side of Portland Street to determine if associated impacted groundwater has migrated off site.

Horizons also recommends the installation of one 8"-12" recovery well downgradient yet within the vicinity of MW-3. Horizons recommends performing enhanced free product recovery on a monthly basis.

Horizons recommends performing a sub slab vapor survey at the two north and west abutting properties and within the storm drains on Portland Street.

Please contact the undersigned with any questions or concerns.

Sincerely,

Jennifer Stonecipher

Environmental Project Manager

Horizons Engineering, Inc.

Attachments

X:\11217 Lyster - Northeast Collision SI (A)\DOCS\REPORTS\siteinvestigatio.doc







34 School Street Littleton, NH 03561 (603) 444-4111 Northeast Auto Accessory 684 Portland Street St. Johnsbury, Vermont Vermont ID #20114197 Site Locus Map Project No. 11217



RHTL PARTNERS LLC

OWNERSHIP

PORTLAND ST 0684

Printed 03/21/2012 Card No. 1

336

of 1

ADMINISTRATIVE INFORMATION

PARCEL NUMBER 1V 133121

Parent Parcel Number

Property Address PORTLAND ST 0684

becdroddpieM 300 General Commercial

Property Class 336 Commercial Hixed Uses TAXING DISTRICT INFORMATION

Jurisdiction 176

ST JOHNSBURY, VT Area 176

District 77

Routing Number 550-175-10165

RHTL PARTNERS LLC C/O L & T AUTO GROUP 684 PORTLAND ST ST JOHNSBURY, VT 05819 Tax ID 027-001-044-000

TRANSFER OF OWNERSHIP

Date

12/20/2004 N/A Bk/Pg: 300, 317

\$393219

COMMERCIAL

VALUATION RECORD Act 58 Value Allocations Assessment Year 04/01/2005 04/01/2008 04/01/2009 Non Residential Reason for Change 2006 2003 2009 WALUATION L 65562 0 90300 90300 2002 Market В 439590 505200 479890 479890 Т 505152 505200 570190 570190

Site Description

Topography:

Public Utilities:

Water, Sewer, Electric Street or Road:

Neighborhood:

Zpning: Legal Acres: 1.2300

1 Primary Commercial

Land Type

Rating Measured Soil ID Acreage -or-

Table -or-Actual Effective Effective

Frontage Frontage Depth Square Feet 1.2900

LAND DATA AND CALCULATIONS Prod. Factor -or-

1.00

Depth Factor

-or-

Base Adjusted Rate Rate

Extended ¥alue 70000.00 70000.00

Influence Factor 90300

**Yalue** 

90300

Supplemental Cards

TRUE TAX VALUE

90300

### PHYSICAL CHARACTERISTICS

RCOFING

Built-up

FRAMING

FRES

B 1 2 U
F Res 0 26495 0 0

FINISH

UF SF FO FD
1 26495 0 0 0

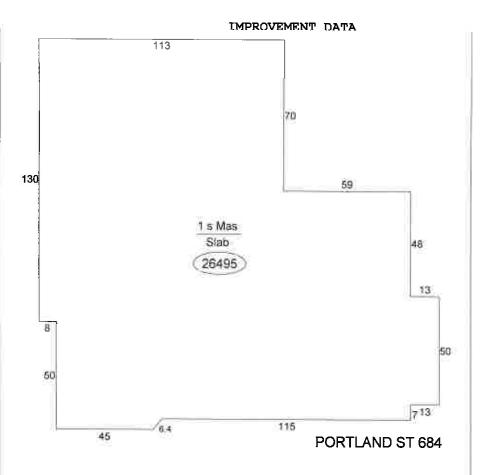
Total 26495 0 0 0

HEATING AND AIR CONDITIONING

0 26495

Heat

U

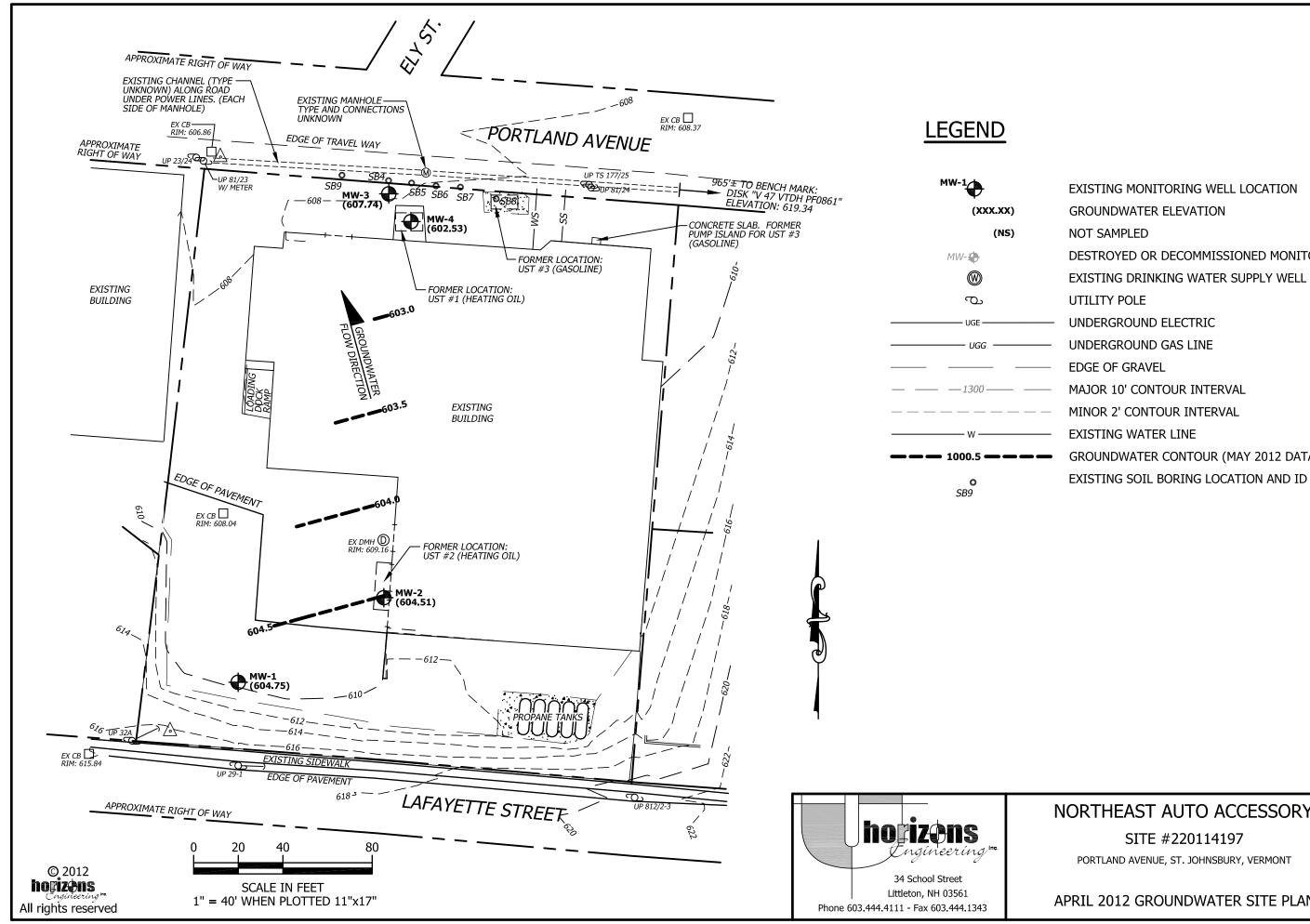


1W 133121 PORTLAND ST 0584 Property Claus: 335



SPECIAL FEA	ATURES					S	UMMAF	XY C	F IME	ROVE	MENTS							
Description	''alue	ID	(¹se		Const Type Grade	Year Const		ond	Pase Rate	Feat- ures	Adj U Rate	Size or Area	Computed Value		nys∩bsol epr Depr			''alue
		С	GENCOLIN	0.00	Fair	: 1900	1980	FE	6200	(0)	0.00	2649	5	00	φ	0	100	479850





EXISTING MONITORING WELL LOCATION **GROUNDWATER ELEVATION** NOT SAMPLED DESTROYED OR DECOMMISSIONED MONITORING WELL EXISTING DRINKING WATER SUPPLY WELL UTILITY POLE UNDERGROUND ELECTRIC UNDERGROUND GAS LINE **EDGE OF GRAVEL** MAJOR 10' CONTOUR INTERVAL MINOR 2' CONTOUR INTERVAL **EXISTING WATER LINE** GROUNDWATER CONTOUR (MAY 2012 DATA)

## NORTHEAST AUTO ACCESSORY

SITE #220114197

PORTLAND AVENUE, ST. JOHNSBURY, VERMONT

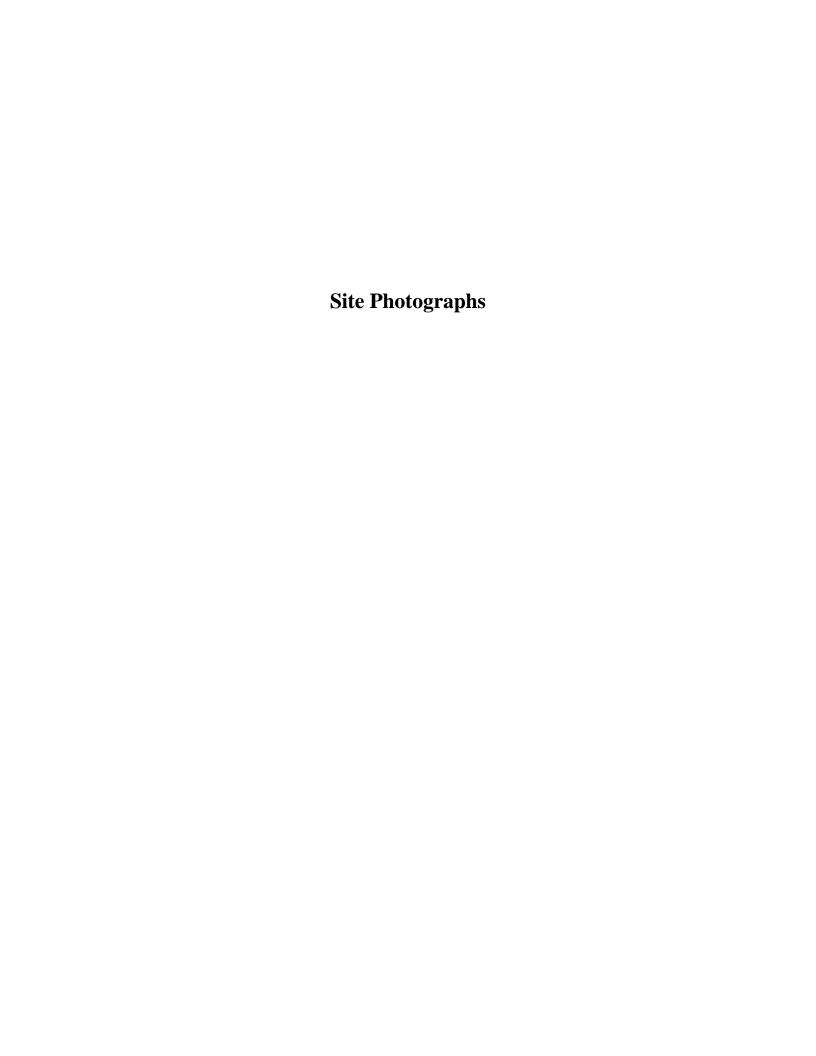
APRIL 2012 GROUNDWATER SITE PLAN

PROJECT #: 11217 ENGIN'D BY:

JSS

DRAWN BY: KRP

DATE: APRIL 2012



# Northeast Auto Accessory 684 Portland Street – St. Johnsbury, VT Site Photographs - SMS #20114197









Upper left-MW-1-Upgradient Well Location, Remaining three pictures-MW-2 Location.

# Northeast Auto Accessory 684 Portland Street – St. Johnsbury, VT Site Photographs - SMS #20114197



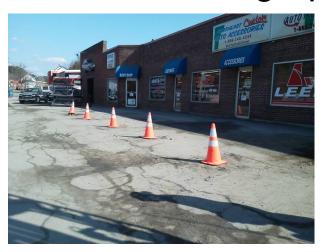






Locations of MW-3 and MW-4 as well as SB-5 through 10.

# Northeast Auto Accessory 684 Portland Street – St. Johnsbury, VT Site Photographs - SMS #20114197

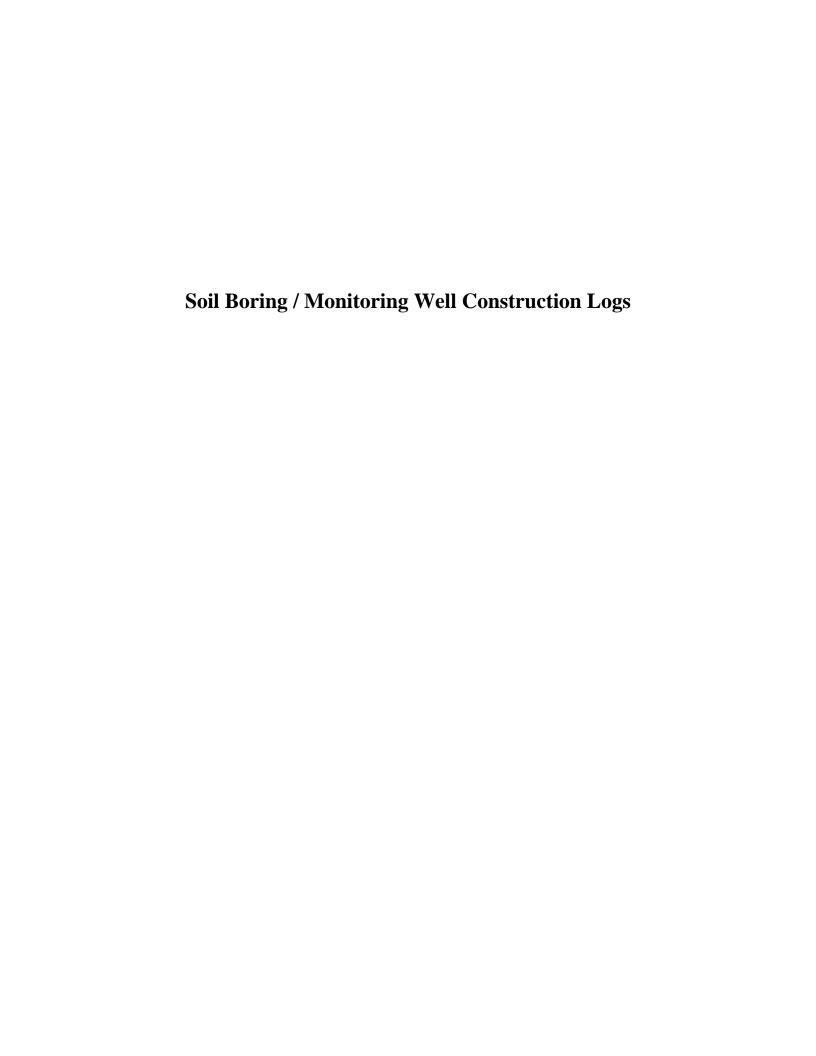








Upper Left-SB-5 thru 9, Upper right-SB-8-Evidence UST location, Lower left-former pump location on right of door, lower right-MW-3.





BORING NO.:

SB-1

WELL ID:

PROJEC	ET	Northeast A	uto							_	HORIZONS FILE	NO.	11217		
LOCATI	ON	684 Portland	d Street, St. J	ohnsbury						_	PROJECT MGR.		Jennifer Stone	eciphe	er
CLIENT		Mr. Ronney	Lyster							_	FIELD REP.		Jennifer Stone	eciphe	er
CONTRA	ACTOR	Northern Te	st Boring							_	DATE STARTED		March 20th, 2	012	
DRILLEI	R	Northern Te	st Boring							_	DATE COMPLET	ED	March 20th, 2	012	
Elevation			Datum:			Boring	j Lo	ocation: upgradient of site							
GROU	JNDWATER RE	ADINGS	SA	MPLER		Rig Ma	ake	& Mode				_	ctive Casing	We	II Development
Date	Depth (ft)	Reference	Type: ENT	ΓER		☐ Tri			✓ Hollow Stem Auger		Mud Rotary	✓ Roa	dbox	□ W	/hale Pump
			Hammer (lb	130#		✓ A7	ľV		☐ Cable Tool		Dual Rotary				ailer
			Fall (in):	30"		☐ Tri	ipoc		☐ Drive & Wash			☐ Nor	e (temp. sticku	☐ P	eristaltic
				FIELD SCREENIN					SAMPLE DE	SCR	RIPTION				
DEPTH (FT)	SAMPLE ID	BLOWS PER 6 IN	PEN / REC (IN)	G (ppm)		L DET	AIL		rmister Visual-Manual Id olor, maximum particle siz descriptions, geolo	e in s	sampler, structure, od		ture, optional		LITHOLOGIC DESCRIPTION
- 0 -	0-2	2	24	0				greyish brown coarse S.							
		1													
		1													
		2													
- 5 -															
_ , _	5-7	2	12	0				dark grey medium SANI	OS and silt, moist-wet						
		2													
		3													
		2													
- 10 -	10-12	2	14	0				orangish medium SAND	S						
F		6		-											
F		9													
-		14													
F															
F															
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	FT CONSISTEN	CONSIS	TENCY		2	crete		ENTER BGS Overburde	ii (Eiiioai iii).	TER					
0 - 4	V. LOOSE	<2	V. SOFT		Bacl					TER			HTH TILL		
4 - 10	LOOSE	1	SOFT		Grou			ENTER BGS Well solid		TER			======================================		
10 - 30	M. DENSE		M. STIFF		1			ENTER BGS Well stand		TER	-C- CLAY		R/C ROO	K/(	COMPETENT
30 - 50 >50	DENSE V. DENSE		STIFF V. STIFF		1	dpack r Pipe		ENTER BGS Well PVC ENTER BGS Screen ler	diameter (in.ENTER roa	TER		α GKA	VEL R/W ROC	-n/\	WEATHERED
- 50	V. DLINGE	>30	V. STIFF HARD		Scre			ENTER BGS Screen slo	• . ,	TER					
NOTES:		- 00			, , , ,			200 20.00 010			_				



BORING NO.:

SB-2

WELL ID:

MW-2 Page 1 of 1

PROJE	CT	Northeast A	uto							_	HORIZONS FILE	NO.	11217	
LOCATI	ON	684 Portland	d Street, St. J	ohnsbury							PROJECT MGR.		Jennifer Stone	ecipher
CLIENT		Mr. Ronney	Lyster								FIELD REP.		Jennifer Stone	ecipher
CONTR	ACTOR	Northern Te	st Boring								DATE STARTED		March 20th, 20	012
DRILLE	R	Northern Te	st Boring								DATE COMPLET	ΈD	March 20th, 20	012
Elevation		ft.	Datum:			Bori	ng Lo	ocation: Former UST#2 Area	a					
GRO	JNDWATER RE	ADINGS	SA	MPLER		Rig I	/lake	& Mode				Prote	ctive Casing	Well Development
Date	Depth (ft)	Reference	Type: ENT	ΓER		<u> </u>	ruck		✓ Hollow Stem Auger		Mud Rotary	✓ Road	lbox	Whale Pump
			Hammer (Ib	130#		✓ A	ATV		☐ Cable Tool		Dual Rotary	☐ Stan	dpipe	✓ Bailer
			Fall (in):	30"		<u> </u>	ripoc		☐ Drive & Wash			☐ Non	e (temp. sticku	Peristaltic
				FIELD					SAMPLE DE	SCR	RIPTION		-	
DEPTH	SAMPLE ID	BLOWS	PEN/REC	SCREENIN G		L DE	TAIL	Bı	ırmister Visual-Manual Id	lentif	ication & Description	n		LITHOLOGIC
(FT)		PER 6 IN	(IN)	(ppm)				(density/consistency, o	color, maximum particle siz			or, moist	ure, optional	DESCRIPTION
									descriptions, geolo	gic in	terpretation)			
- 0 -	0-2			0				asphalt followed by crus	shod stone					
	0-2			U				aspiral followed by crus	sileu storie					
:														
- 5 -														
	5-7	1	18	44				dark brown coarse SAN	IDS, moist at 6.5'					
:		1						heavy petroleum odor						
		2												
		3												
- 10 -														
	10-12	3	12	0				medium coarse SAND	S, gravels, saturated					
		4												
		4												
		4												
_ 15 _								set well at 15'						
<b>–</b> 15 <b>–</b>														
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20														
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	FT CONSISTEN	CONSIS	TENCY			crete		ENTER BGS Overburde	(=	ITER			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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4 - 10	LOOSE		SOFT	7111111	Grou					ITER			FILL	
10 - 30	M. DENSE		M. STIFF		1					ITER				CK / COMPETENT
30 - 50	DENSE		STIFF		•	ipaci			diameter (in.ENTER roa			& GRA	VEL R/W ROC	CK / WEATHERED
>50	V. DENSE	15 - 30 >30	V. STIFF HARD		Rise Scre	r Pip	•	ENTER BGS Screen let ENTER BGS Screen ske	• ( )	ITER ITER				
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NOTES:														



BORING NO.:

SB-3

WELL ID:

MW-3

PROJEC LOCATI CLIENT CONTRA DRILLE	ON ACTOR	Northeast A 684 Portland Mr. Ronney Northern Te	d Street, St. J Lyster est Boring	ohnsbury							HORIZONS FILE PROJECT MGR. FIELD REP. DATE STARTED DATE COMPLET	•	Jennifer Stone Jennifer Stone March 20th, 2 March 20th, 2	ecipher 012
Elevation		ft.	Datum:	MDIED				ocation: downgradient of For	mer UST #1 location			1		
GRO	UNDWATER RE			AMPLER		1		& Mode				_	ctive Casing	Well Development
Date	Depth (ft)	Reference	Type: EN	TER		✓ ′	Fruck		✓ Hollow Stem Auger		Mud Rotary	✓ Road		☐ Whale Pump
			Hammer (lb	130#			ATV		Cable Tool		Dual Rotary	☐ Stan	dpipe	✓ Bailer
			Fall (in):	30"			Tripod		☐ Drive & Wash			☐ Non	e (temp. sticku	☐ Peristaltic
DEPTH (FT)	SAMPLE ID	BLOWS PER 6 IN	PEN / REC (IN)	FIELD SCREENIN G (ppm)		LL DE	TAIL		SAMPLE DE rmister Visual-Manual le color, maximum particle si descriptions, geole	dentifi ze in s	ication & Description ampler, structure, od		ure, optional	LITHOLOGIC DESCRIPTION
- 0 -	0-2			0				coarse gravels-driveway	y layer					
- 5 -	5-7	2	12	9				medium- coarse SANDS	S. moist at 6.5'					
ľ	<u> </u>	4	i	ŭ				no odor	o,o.o. a. o.o					
ŀ		4						no odor						
ŀ		6				_								
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- 10 <del>-</del>	10-12	10	4	84				rock in tip of spoon-brow	wn coarea SANDS-ea	turat	ad			
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		10						petroleum odor						
		12												
		10												
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– 15 <del>–</del>		1												
ļ	15-17	6	24	14				grey fine SANDS, little of	clay-saturated					
		6						no odor						
		5								_		· <u>-</u>		
ļ		4						set well at 17'						
ŀ		<u> </u>						COL WOIL GL 17						
						1	1							
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	NULAR SOILS	CO11	IESIVE SOIL	<u> </u>	EGE	- NID	1	NTERVAL (FT)	SUMMARY			ITHOU	GIC DESCR	IDTION
	FT CONSISTEN	STOMS	/F I	~   _ <u> </u>	4					NTER		JULC	OIO DESCR	11014
		CONSIS	TENCY		2	crete		ENTER BGS Overburde	m (Emour m).				Щ     <u></u> -	
0 - 4	V. LOOSE		V. SOFT		Bac					ITER			TILL	
4 - 10	LOOSE		SOFT		Gro					ITER	SL SILT		FILL	
10 - 30	M. DENSE		M. STIFF		Ben	tonite	Sea			NTER	-C- CLAY		R/C ROC	CK / COMPETENT
30 - 50	DENSE	8 - 15	STIFF		San	dpac	k	ENTER BGS Well PVC	diameter (in. ENTER ro	adbo	SAND	& GRA	VEL R/W ROO	CK / WEATHERED
>50	V. DENSE	15 - 30	V. STIFF		Rise	er Pip	е	ENTER BGS Screen ler	ngth (ft.): EN	NTER			_	
		>30	HARD		Scr			ENTER BGS Screen slo	ot size: EN	NTER				
NOTES:				1 1	ıi .									
1101E3:														
***************************************														



BORING NO.:

SB-4

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PROJE	СТ	Northeast A	uto									HORIZONS FILE	NO.	11217	
LOCATI	ON	684 Portland	d Street, St. J	ohnsbury								PROJECT MGR.		Jennifer Stone	ecipher
CLIENT		Mr. Ronney	Lyster								<u></u>	FIELD REP.		Jennifer Stone	ecipher
CONTR	ACTOR	Northern Te	st Boring									DATE STARTED	)	March 20th, 20	012
DRILLE	R	Northern Te	st Boring									DATE COMPLET	ED	March 20th, 20	012
Elevation			Datum:			Bori	ng L	ocation: 6' north	of MW-3						
GRO	JNDWATER RE	ADINGS	SA	AMPLER				& Mode						ctive Casing	Well Development
Date	Depth (ft)	Reference	Type: EN	TER		4	Truck			✓ Hollow Stem A		Mud Rotary		dbox	Whale Pump
			Hammer (lb				ATV	-		Cable Tool		Dual Rotary	☐ Stai		☑ Bailer
			Fall (in):	30" FIELD		<u>' U</u>	Tripod	1		☐ Drive & Wash			☐ Noi	ne (temp. sticku	Peristaltic
DEPTH		BLOWS	PEN / REC	SCREENIN						SAMPLE					LITHOLOGIC
(FT)	SAMPLE ID	PER 6 IN	(IN)	G (ppm)	WEI	L DE	TAIL					fication & Descriptio sampler, structure, od		ture optional	DESCRIPTION
				(FF)				(20), 2	,,	descriptions,			,	,	
- 0 -															
:	0-6.5			3.2				medium silty s	sand						
:															
_															
- 5 -															
	6.5-7			82				coarse silty S	AND, heav	y odor, dry					
:															
							<u></u>								
							<u> </u>								
							<u> </u>								
- 10 -															
	10-12	5	4	112				coarse silty S	AND, heav	y odor					
:		4													
		6 5													
		10													
	12-14	10		16				dark brown co	narse SANI	ne .					
	12 17	12		10				sheen on wat							
		12							-						
:		10													
45															
- 15 -															
•															
:															
							<u> </u>								
							<u> </u>								
							-								
20															
20 GRA	NULAR SOILS	СОН	ESIVE SOIL	S I	EGE	ND		INTERVAL (FT	1	SUMMARY		1	ITHOL	OGIC DESCRI	IPTION
	FT CONSISTEN	W1 73868	/F I		-	crete				n (Linear ft.):	ENTER			O O IO D L O O I I	
0 - 4	V. LOOSE	CONSIS	V. SOFT		Bac					k core/air hamm	ENTER			HTH TILL	
4 - 10	LOOSE		SOFT	,,,,,,,,,	Gro	ut		ENTER BGS	Well solid r	iser pipe length:	ENTER			E FILL	
10 - 30	M. DENSE		M. STIFF	,,,,,,,,,	9					oipe height ags:	ENTER				CK / COMPETENT
30 - 50 >50	DENSE V. DENSE		STIFF		1	dpac			Well PVC o	diameter (in.ENTE			& GRA	VEL R/W ROC	CK / WEATHERED
>50	V. DENSE	>30	V. STIFF HARD	4	Scre	er Pip	В		Screen slot	• ( )	ENTER				
NOTES:		/30	IIAND		Jourt	-011			1 30.0011 0101		LINIE	<u>·</u>			
					•••••										
					•••••										



BORING NO.:

SB-5

PROJE	СТ	Northeast A	uto									HORIZONS FILE	NO.	11217	
LOCATI	ON	684 Portland	d Street, St. J	ohnsbury								PROJECT MGR.		Jennifer Stone	cipher
CLIENT		Mr. Ronney	Lyster								<u></u>	FIELD REP.		Jennifer Stone	cipher
CONTR	ACTOR	Northern Te	st Boring									DATE STARTED		March 20th, 20	)12
DRILLE	R	Northern Te	st Boring									DATE COMPLET	ED	March 20th, 20	)12
Elevation			Datum:			Bori	ng Lo	ocation: 10' eas	t of SB-4						
GRO	UNDWATER RE	ADINGS	SA	AMPLER				& Mode					_	ctive Casing	Well Development
Date	Depth (ft)	Reference	Type: EN	ΓER		4	ruck			✓ Hollow Stem A		Mud Rotary		dbox	Whale Pump
			Hammer (lb			<u>.                                    </u>				Cable Tool		Dual Rotary	Star		✓ Bailer
			Fall (in):	30" FIELD	Ι	Ц.	Ггірос	ı		☐ Drive & Wash			Nor	ne (temp. sticku	Peristaltic
DEPTH		BLOWS	PEN / REC	SCREENIN						SAMPLE					LITHOLOGIC
(FT)	SAMPLE ID	PER 6 IN	(IN)	G (ppm)	WEI	L DE	TAIL	(density/c				ification & Description sampler, structure, od		ture ontional	DESCRIPTION
				(FF)				(==:::), =				interpretation)	,	,	
- 0 -															
:	0-6.5			14				medium-coar	se silty san	d					
															_
:															
_															
- 5 -															
•	6.5-7			99				coarse silty S	SAND, heav	y odor, dry					
- 10 -															
:	10-11.5			81				coarse silty S	SAND, heav	y odor					
•	44.5.40			0					CANDO						
	11.5-12			8				medium brov	VI SANDS						_
:															
<b>-</b> 15 <b>-</b>															
:															
20	NULAR SOILS		FOIVE COIL		EGE	ND		NITEDVAL (E	-	CUMMADY		<del>.</del>	ITUOL	OOIO DECODI	DTION
	FT CONSISTEN	CA RLOWS		·³ ├── └	-	crete		INTERVAL (FI		SUMMARY n (Linear ft.):	ENTER		IIHOL	OGIC DESCRI	PTION
0 - 4	V. LOOSE	CONSIS	V. SOFT	<del>-  </del>	Bac					k core/air hamm	ENTER			-T-TILL	
4 - 10	LOOSE		SOFT		Gro					iser pipe length:	ENTER	R SL SILT		FILL	
10 - 30	M. DENSE		M. STIFF	***************************************	7		Sea			pipe height ags:	ENTER	R -C- CLAY		R/C ROC	K / COMPETENT
30 - 50	DENSE		STIFF	25555555	1	dpac				diameter (in. <b>ENTE</b>			& GRA	VEL R/W ROC	K/WEATHERED
>50	V. DENSE			4 · · · · · · · · · · · · · · · · · · ·	# <b>#</b>	r Pip	е		Screen len	• ( )	ENTER				
		>30	HARD		Scre	een		ENTER BGS	Screen slo	size:	ENTE	R			
NOTES:															



BORING NO.:

SB-6

W	ELL	ID:

PROJEC LOCATI CLIENT CONTRA DRILLE	ON ACTOR	Northeast A 684 Portland Mr. Ronney Northern Te	d Street, St. J Lyster est Boring	ohnsbury						HORIZONS FILI PROJECT MGR FIELD REP. DATE STARTEI DATE COMPLE		Jennifer Stonec Jennifer Stonec March 20th, 201 March 20th, 201	ipher 2
Elevation		ft.	Datum:			Borii	ng Lo	ocation: 10' east of SB-5					
GRO	JNDWATER RE	ADINGS	SA	MPLER				& Mode			Prote	ective Casing	Well Development
Date	Depth (ft)	Reference	Type: EN	TER		✓ T	ruck		✓ Hollow Stem Auger	☐ Mud Rotary	Roa	dbox	Whale Pump
			Hammer (lb	130#			ATV		☐ Cable Tool	☐ Dual Rotary	☐ Star	ndpipe ✓	Bailer
			Fall (in):	30"		□ 1	Ггірос		☐ Drive & Wash		☐ Nor	ne (temp. sticku	Peristaltic
DEPTH (FT)	SAMPLE ID	BLOWS PER 6 IN	PEN / REC (IN)	FIELD SCREENIN G (ppm)		L DE	TAIL		SAMPLE DE rmister Visual-Manual Id blor, maximum particle siz descriptions, geolo	entification & Description to the in sampler, structure, or		sture, optional	LITHOLOGIC DESCRIPTION
- 0 -	0-6.5			0				medium-coarse silty san	id				
- 5 -													
	6.5-7			62				grey medium silty SAND	o, slight odor,				-
- 10 -	10-11.5			42				brown coarse SAND, sa	turated-sheen on wat	er			
- - -	11.5-12			1.2				brown coarse SANDS					- - - - -
<b>-</b> 15 <b>-</b>													
20													_
	NULAR SOILS	СОН	ESIVE SOIL	S I	EGE	ND		NTERVAL (FT	SUMMARY	1	ITHOL	OGIC DESCRIP	TION
0 - 4 4 - 10 10 - 30 30 - 50 >50	V. LOOSE LOOSE M. DENSE DENSE V. DENSE	CY BLOWS CONSIS <2 2 - 4 4 - 8 8 - 15	VFI STENCY V. SOFT SOFT M. STIFF STIFF		Con Bac Gro Ben San	crete kfill ut tonite dpack r Pipe	Sea	ENTER BGS Overburde ENTER BGS Feet of roc ENTER BGS Well solid ENTER BGS Well stand	n (Linear ft.): EN k core/air hamm EN riser pipe length: EN pipe height ags: EN diameter (in.ENTER roa gth (ft.): EN	TER TER SL SILT TER C- CLAY		TILL EFILL R/C ROCK	(/COMPETENT (/WEATHERED
NOTES:													



BORING NO.:

SB-7

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PROJEC	T	Northeast A	uto							HORIZONS FIL	E NO.	11217	
LOCATI	ON	684 Portland	d Street, St. J	ohnsbury						_ PROJECT MGR	l.	Jennifer Stone	ecipher
CLIENT		Mr. Ronney	Lyster							FIELD REP.		Jennifer Stone	ecipher
CONTR	ACTOR	Northern Te	st Boring							DATE STARTE	D	March 20th, 2	012
DRILLE	R	Northern Te	st Boring							DATE COMPLE	TED	March 20th, 2	012
Elevation			Datum:			Bori	ng Lo	ocation: 10' east of SB-6			_		
GRO	JNDWATER RE	ADINGS	SA	MPLER				& Mode	T			ective Casing	Well Development
Date	Depth (ft)	Reference	Type: EN			1	Γruck		✓ Hollow Stem Auger	Mud Rotary		adbox	Whale Pump
			Hammer (lb			1	ATV		Cable Tool	☐ Dual Rotary		ndpipe	☑ Bailer
			Fall (in):	30" FIELD	1	Ш.	Tripod	: 	☐ Drive & Wash		□ No	ne (temp. sticku	Peristaltic
DEPTH (FT)	SAMPLE ID	BLOWS PER 6 IN	PEN / REC (IN)	SCREENIN G (ppm)		L DE	TAIL		rmister Visual-Manual I olor, maximum particle s	ESCRIPTION  dentification & Description description in sampler, structure, of one of the control		sture, optional	LITHOLOGIC DESCRIPTION
- 0 -	0-3			74				medium silty SAND, hea	avy petroleum odor, o	old kerosene like odor			
=													
=													
=	3-5			84				medium silty SAND, hea	avy petroleum odor				
- 5 -	5-7			82				medium silty SAND, hea	avv netroleum odor s	saturated sheen on w	ater		
=				02				inodiani only of the first	avy potroloum odor, c	saturatou, oncon on w	ator		
-													
=													
=													
- 10 <del>-</del>	10-11.5			42				medium coarse SAND,	saturated-sheen on v	water			
=	11.5-12			4				brown coarse SANDS					
=													
=													
- 15 <del>-</del>													
=													
=													
=													
=													
20 GPA	NULAR SOILS		ESIVE SOIL	e   .	.EGE	NID.	<u> </u>	NTEDVAL /ET	SUMMARY	Ī	I ITUO:	OGIC DESCR	IPTION
	NULAR SOILS FT CONSISTEN	CA RLOWS	/F I	-3   L		crete		NTERVAL (FT) ENTER BGS Overburde		NTER	LIIMUL	OGIC DESCR	IF HUN
0 - 4	V. LOOSE	CONSIS	V. SOFT		Bac				ii (Eiiioai iti).	NTER -S- SAND	)	+T+ TILL	
4 - 10	LOOSE	2 - 4	SOFT		Gro					NTER SL SILT		FILL	•
10 - 30	M. DENSE		M. STIFF	,,,,,,,,,	4					NTER -C- CLAY			CK / COMPETENT
30 - 50	DENSE		STIFF	00000000	•	dpac			diameter (in.ENTER ro		& GRA	AVEL R/W ROO	CK / WEATHERED
>50	V. DENSE				·	r Pip	е	ENTER BGS Screen ler	• ( )	NTER			
NOTE:		>30	HARD		Scre	en		ENTER BGS Screen slo	t SIZE: E	NTER			
NOTES:													
	a												



BORING NO.:

SB-8

Mile   Provide	March   State   Stat	ROJE		Northeast A										HORIZONS FILE		11217	
Note   Section	Note   Date Start Early   Date   Date Start Early   Date   Date Start Early   Date					ohnsbury								PROJECT MGR.		Jennifer Stonecip	
Notified Test Bodgs	Notice   Transport   Transpo																
Description	Both															-	
SAMPLE DE   Depth   10   Reference   Tape   LTTRE   Depth   10   Task   Depth   10   Reference   Tape   LTTRE   Depth   10   Reference   Reference   Tape   LTTRE   Depth   10   Reference   Referen	SAMPLE   Debug	KILLE	К	Northern Te	st Boring		—							DATE COMPLET	Eυ	March 20th, 2012	
SAMPLE DE   Depth   10   Reference   Tape   LTTRE   Depth   10   Task   Depth   10   Reference   Tape   LTTRE   Depth   10   Reference   Reference   Tape   LTTRE   Depth   10   Reference   Referen	SAMPLE   Debug	ovation		ft	Datum:			Bori	na I a	ecation: 10' east	of SR-6						
Depth (PP)   Reference   SpecDTER       Task	Depth (PT)   Reference   Dyc. SNTER   2 Truk   2 NAT   2 NATE				•	AMPLER					01 015 0				Prote	ective Casing W	ell Development
Sample   S	Nameric No. 1987   State   S			1	<b>-</b>							✓ Hollow Stem A	nøer 🗌	Mud Rotary	_		
Per   Sample   December   De	Fall (m): 30   Free N   Free	Duit	2001()					1				1			☐ Stai		•
SAMPLE ID BLOWS PER 6 IN PEN FIG.  SOFTER IN NO. 1	SAMPLE   D   SAM								Ггірос			1			☐ Noi	ne (temp. sticku	Peristaltic
BERTH PER 6 IN PER 6	### AMPLE ID  ### 6 IN  ##					FIELD						SAMPLI	E DESC	RIPTION		•	
142	142		SAMPLE ID			G		L DE	(density/consistency, color, maximum particle size in sampler, structure, odor, moisture, optional							LITHOLOGIC DESCRIPTION	
4.10 COMESIVE SOILS BLOWSFT CONSISTENCY CO	auger falls through empty space-old UST  building auger falls through empty space-old UST  auger falls through empty space-old UST  building auger falls auger falls auger falls auger falls auger falls auger falls auger fall	0 —	0-5			142				dark brown m	edium SAI	NDS, heavy petr	oleum o	dor, turpentine or k	eroser	ne like odor	
10	128	=															
10	128	-															
4.10 COMESIVE SOILS BLOWSFT CONSISTENCY CO	128	=															
4.10 COMESIVE SOILS BLOWSFT CONSISTENCY CO	128	=															
auger falls through empty space-old UST    10 -	auger falls through empty space-old UST    10	5 —															
20  GRANULAR SOILS BLOWSPT CONSISTENCY COMSISTENCY COM	20  GRANULAR SOILS BLOWSPT CONSISTENCY 10-4 V. LOSE 4-10 LOSE 4-10 LOSE 4-10 LOSE 5-30 V. DENSE 8-15 STIFF 5-50 V. DENSE 8-15 STIFF 5-30 V. ST	=	5-8			128				dark brown m	edium SAI	NDS, heavy petr	oleum o	dor, turpentine or k	eroser	ne like odor	
GRANULAR SOILS BLOWSFT CONSISTENCY 0-4 V. LOOSE 4-10 LOOSE 0-50 DENSE 0-50 V. DENSE 15-30 HARD    COHESVE SOILS   LEGEND   NTERVAL (FT   SUMMARY   LITHOLOGIC DESCRIPTION	GRANULAR SOILS BLOWS/FT CONSISTENCY 0-4 V. LOOSE 4-8 V. LOOSE 4-8 M. STIFF 0-30 M. DENSE 0-50 V. DENSE 15-30 V. STIFF >30 HARD  LEGEND NTERVAL (FT SUMMARY LITHOLOGIC DESCRIPTION  LOGROPHIC BGS Well standpipe height ags: ENTER BGS Screen length (It.): ENTER BGS Screen length (It.): ENTER BGS Screen slot size: ENTER BGS Well standpipe height ags: ENTER	=					-			auger falls thr	ough emp	ty space-old US	Γ				
GRANULAR SOILS BLOWSFT CONSISTENCY 0-4 V. LOOSE 4-10 LOOSE 0-50 DENSE 0-50 V. DENSE 15-30 HARD    COHESVE SOILS   LEGEND   NTERVAL (FT   SUMMARY   LITHOLOGIC DESCRIPTION	GRANULAR SOILS BLOWS/FT CONSISTENCY 0-4 V. LOOSE 4-8 V. LOOSE 4-8 M. STIFF 0-30 M. DENSE 0-50 V. DENSE 15-30 V. STIFF >30 HARD  LEGEND NTERVAL (FT SUMMARY LITHOLOGIC DESCRIPTION  LOGROPHIC BGS Well standpipe height ags: ENTER BGS Screen length (It.): ENTER BGS Screen length (It.): ENTER BGS Screen slot size: ENTER BGS Well standpipe height ags: ENTER	=															
GRANULAR SOILS BLOWSFT CONSISTENCY 0-4 V. LOOSE 4-8 M. STIFF 0-30 M. DENSE 8-15 STIFF 0-50 V. DENSE 8-15 STIFF >50 V. DENSE 15-30 V. STIFF >30 HARD    Streep   Part   Par	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 1-10 LOOSE 1-10 LOOSE 2-2 V. SOFT 1-10 LOOSE 1-10 LOOSE 2-2 V. SOFT 1-10 LOOSE 3-30 M. DENSE 0 - 50 DENSE 1-50 V. DENSE	=															
GRANULAR SOILS BLOWSFT CONSISTENCY 0-4 V. LOOSE 4-8 M. STIFF 0-30 M. DENSE 8-15 STIFF 0-50 V. DENSE 8-15 STIFF >50 V. DENSE 15-30 V. STIFF >30 HARD    Streep   Part   Par	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 1-10 LOOSE 1-10 LOOSE 2-2 V. SOFT 1-10 LOOSE 1-10 LOOSE 2-2 V. SOFT 1-10 LOOSE 3-30 M. DENSE 0 - 50 DENSE 1-50 V. DENSE	=															
20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 4 - 10 LOOSE 0 - 30 M. DENSE 0 - 50 DENSE 5 - 30 V. DENSE 15 - 30 V. STIFF 5 - 30 W. ARD  SCHESIVE SOILS BLOWS/FT CONSISTENCY CONSISTENCY 15 - 30 V. STIFF	20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4	10 —					-										
20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 4 - 10 LOOSE 0 - 30 M. DENSE 0 - 50 DENSE 5 - 30 V. DENSE 15 - 30 V. STIFF 5 - 30 W. ARD  SCHESIVE SOILS BLOWS/FT CONSISTENCY CONSISTENCY 15 - 30 V. STIFF	20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4	=															
20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 4 - 10 LOOSE 0 - 30 M. DENSE 0 - 50 DENSE 5 - 30 V. DENSE 15 - 30 V. STIFF 5 - 30 W. ARD  SCHESIVE SOILS BLOWS/FT CONSISTENCY CONSISTENCY 15 - 30 V. STIFF	20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4	=															
20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 4 - 10 LOOSE 0 - 30 M. DENSE 0 - 50 DENSE 5 - 50 V. DENSE  15 - 30 V. STIFF 5 - 30 HARD  TOHESIVE SOILS BLOWS/FT COMSISTENCY CONCRETE Backfill Bentonite Sea Sandpack Riser Pipe Screen  ENTER BGS Well standpipe height ags: ENTER BGS Well pVC diameter (in.ENTER roadbox SAND & GRAVEL RW ROCK / WEATHERE!  Sandpack ENTER BGS Screen length (it.): ENTER BGS Screen slot size: ENTER BGS Screen	20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4  V. LOOSE 4 - 10  LOOSE 2 - 4  SOFT 0 - 30  M. DENSE 0 - 50  DENSE 5 0 V. DENSE 15 - 30  V. STIFF 30  HARD  Screen  NTERVAL (FT SUMMARY ENTER BGS Overburden (Linear ft.): ENTER BGS Well solid riser pipe length: ENTER Sandpack Riser Pipe ENTER BGS Well solid riser pipe length: ENTER BGS Well solid riser pipe length: ENTER BGS Well solid riser pipe length: ENTER Sandpack Riser Pipe ENTER BGS Well PVC diameter (in.ENTER roadbox Riser Pipe ENTER BGS Screen length (ft.): ENTER SAND SAND GRAVEL  SAND GR	=															
20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 4 - 10 LOOSE 0 - 30 M. DENSE 0 - 50 DENSE 5 - 50 V. DENSE  15 - 30 V. STIFF 5 - 30 HARD  TOHESIVE SOILS BLOWS/FT COMSISTENCY CONCRETE Backfill Bentonite Sea Sandpack Riser Pipe Screen  ENTER BGS Well standpipe height ags: ENTER BGS Well pVC diameter (in.ENTER roadbox SAND & GRAVEL RW ROCK / WEATHERE!  Sandpack ENTER BGS Screen length (it.): ENTER BGS Screen slot size: ENTER BGS Screen	20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4  V. LOOSE 4 - 10  LOOSE 2 - 4  SOFT 0 - 30  M. DENSE 0 - 50  DENSE 5 0 V. DENSE 15 - 30  V. STIFF 30  HARD  Screen  NTERVAL (FT SUMMARY ENTER BGS Overburden (Linear ft.): ENTER BGS Well solid riser pipe length: ENTER Sandpack Riser Pipe ENTER BGS Well solid riser pipe length: ENTER BGS Well solid riser pipe length: ENTER BGS Well solid riser pipe length: ENTER Sandpack Riser Pipe ENTER BGS Well PVC diameter (in.ENTER roadbox Riser Pipe ENTER BGS Screen length (ft.): ENTER SAND SAND GRAVEL  SAND GR	-															
20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 4 - 10 LOOSE 0 - 30 M. DENSE 0 - 50 DENSE 5 - 30 V. DENSE 15 - 30 V. STIFF 5 - 30 W. ARD  SCHESIVE SOILS BLOWS/FT CONSISTENCY CONSISTENCY 15 - 30 V. STIFF	20  GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4	-															
GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 42 V. SOFT 4 - 10 LOOSE 0 - 30 M. DENSE 8 - 15 STIFF 0 - 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF SCREEN 15 SCREEN 1	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	15 —															
GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 42 V. SOFT 4 - 10 LOOSE 0 - 30 M. DENSE 8 - 15 STIFF 0 - 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF SCREEN 15 SCREEN 1	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	- -															
GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 42 V. SOFT 4 - 10 LOOSE 0 - 30 M. DENSE 8 - 15 STIFF 0 - 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF SCREEN 15 SCREEN 1	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	=															
GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 42 V. SOFT 4 - 10 LOOSE 0 - 30 M. DENSE 8 - 15 STIFF 0 - 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF SCREEN 15 SCREEN 1	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	-		<del>                                     </del>	<u> </u>	<del>                                     </del>											
GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 42 V. SOFT 4 - 10 LOOSE 0 - 30 M. DENSE 8 - 15 STIFF 0 - 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF SCREEN 15 SCREEN 1	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	ļ															
GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE 42 V. SOFT 4 - 10 LOOSE 0 - 30 M. DENSE 8 - 15 STIFF 0 - 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF > 50 V. DENSE 15 - 30 V. STIFF SCREEN 15 SCREEN 1	GRANULAR SOILS BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	20		-		<del>                                     </del>	<del>                                     </del>										
BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE	BLOWS/FT CONSISTENCY 0 - 4 V. LOOSE		NULAR SOILS			S L	EGE	ND		NTERVAL (FT		SUMMARY		L	ITHOL	OGIC DESCRIPT	ION
0 - 4 V. LOOSE	0 - 4 V. LOOSE	BLOWS		CA RECMA	/F I								ENTE				
0 - 30 M. DENSE 4 - 8 M. STIFF 0 - 50 DENSE 8 - 15 STIFF >50 V. DENSE 15 - 30 V. STIFF >30 HARD  Bentonite Sea ENTER BGS Well standpipe height ags: ENTER Sandpack ENTER BGS Well PVC diameter (in.ENTER roadbox ENTER BGS Screen length (ft.): ENTER Screen ENTER BGS Screen slot size: ENTER	0 - 30 M. DENSE 4 - 8 M. STIFF 0 - 50 DENSE 8 - 15 STIFF >50 V. DENSE 50 HARD  Bentonite Sea ENTER BGS Well standpipe height ags: ENTER BGS Screen length (ft.): ENTER SAND & GRAVEL R/W ROCK / WEATHER  CC CLAY R/C ROCK / COMPETE SAND & GRAVEL R/W ROCK / WEATHER  SAND & GRAVEL R/W ROCK / WEATHER  SCREEN ENTER BGS Screen slot size: ENTER			<2	V. SOFT		1										
0 - 50 DENSE 8 - 15 STIFF Sandpack ENTER BGS Well PVC diameter (in.ENTER roadbox   SAND & GRAVEL RW ROCK / WEATHEREI   STIFF   Riser Pipe   ENTER BGS   Screen length (ft.): ENTER   SCreen   ENTER BGS   Screen slot size: ENTER   SAND & GRAVEL RW ROCK / WEATHEREI   SAND & GRAVEL RW ROCK / WEATHEREI   SAND & GRAVEL RW ROCK / WEATHEREI   STIFF    0 - 50 DENSE 8 - 15 STIFF Sandpack ENTER BGS Well PVC diameter (in.ENTER roadbox   SAND & GRAVEL RW ROCK / WEATHER   SOCK / W					***************************************												
>50 V. DENSE 15 - 30 V. STIFF   Riser Pipe   ENTER BGS   Screen length (ft.): ENTER   Screen   ENTER BGS   Screen slot size: ENTER	>50 V. DENSE 15 - 30 V. STIFF Riser Pipe ENTER BGS Screen length (ft.): ENTER Screen Solution: Screen Solution: ENTER BGS Screen slot size: ENTER					,,,,,,,,,,	1							R CLAY			
>30 HARD Screen ENTER BGS Screen slot size: ENTER	>30 HARD Screen ENTER BGS Screen slot size: ENTER						1								& GRA	VEL R/W ROCK	WEATHERED
		>5U	v. DENSE			4	r <mark>i</mark>		е			• ,					
VI.5.		OTES:		/30	HAND		ocie	·G11		FILLY DOS	2010011 310	. 3120.	LIA I CI				
		O1E9:															



BORING NO.:

SB-9

w	ΕI	ID:
**		 ID.

ROJE( OCATI	ION	Northeast A	uto d Street, St. J	ohnsbury								HORIZONS FILE PROJECT MGR.	Jennifer Stone	•
LIENT		Mr. Ronney	Lyster									FIELD REP.	Jennifer Stone	cipher
ONTR	ACTOR	Northern Te	st Boring									DATE STARTED	March 20th, 20	112
RILLE	R	Northern Te	st Boring									DATE COMPLET	March 20th, 20	112
			L											
levation		ft.	Datum:	MDLED				ocation: 20' west of	SB-4					
1	UNDWATER RE	1	<b>-</b>	MPLER				& Mode			_		Protective Casing Roadbox	Well Development
Date	Depth (ft)	Reference	Type: EN			1	ruck			✓ Hollow Stem A		Mud Rotary		Whale Pump
		<u> </u>	Hammer (lb							Cable Tool		Dual Rotary		Bailer
			Fall (in):	30" FIELD		Ц 1	Ггірос	ı		☐ Drive & Wash			None (temp. sticku	Peristaltic
DEPTH	i	BLOWS	PEN / REC	SCREENIN								RIPTION		LITHOLOGIC
(FT)	SAMPLE ID	PER 6 IN	(IN)	G (nnm)	WEL	L DE	DETAIL Burmister Visual-Manual Identification & Description (density/consistency, color, maximum particle size in sampler, structure, odor, moisture, opti							DESCRIPTION
	•			(ppm)				(derisity/cons	istericy, coi			nterpretation)	or, moisture, optional	
0 —														
Ĭ	0-6.5			10				dark grey mediu	ım coarse	SANDS				
5 —														
			ļ											
			ļ											
:	6.5-12			1.2				grey coarse grav	vel, satura	ated, no sheen,	, no odor	•		
			1											
														_
10 —														_
		-												
-			1											_
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15 —			1		ļ		ļ							$\dashv$
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20			1											
	NULAR SOILS		ESIVE SOIL	S L	EGE	ND		NTERVAL (FT		SUMMARY		LI	THOLOGIC DESCRI	PTION
BLOWS	/FT CONSISTEN	SLOWS			_	crete			<u>verburde</u> n	(Linear ft.):	ENTER			
0 - 4	V. LOOSE	<2	V. SOFT		Bacl	kfill		ENTER BGS F	eet of rock	core/air hamm	ENTER	0000000	HTH TILL	
4 - 10	LOOSE		SOFT		Grou					ser pipe length:	ENTER		E EFILL	
0 - 30	M. DENSE		M. STIFF	,,,,,,,,,,						ipe height ags:	ENTER		R/C ROC	K / COMPETENT
0 - 50	DENSE		STIFF	20000000	•	dpack				iameter (in.ENTE		SAND 8	& GRAVEL R/W ROC	K / WEATHERED
>50	V. DENSE	15 - 30 >30	V. STIFF HARD	4	Rise Scre	r Pip	е		creen leng creen slot		ENTER			
OTES:		>30	ПАКО		JUIE	ell.		LHIER BUS S	0.0011 3101	OILU.	LNIEF	`		
OIES:														



BORING NO.:

SB-10

WELL ID:

MW-4

PROJE	CT	Northeast A	uto							_	HORIZONS FILE	NO.	11217	
LOCATI	ON	684 Portland	d Street, St. Jo	ohnsbury						_	PROJECT MGR.		Jennifer Stone	cipher
CLIENT		Mr. Ronney	Lyster							_	FIELD REP.		Jennifer Stone	cipher
CONTR	ACTOR	Northern Te	st Boring							_	DATE STARTED		March 20th, 20	)12
DRILLE	R	Northern Te	st Boring							_	DATE COMPLET	ED	March 20th, 20	)12
			•											
Elevation			Datum:			Bori	ng Lo	ocation: location of former L	JST#1					
GRO	JNDWATER RE	ADINGS	SA	MPLER		_		& Mode	ľ				ctive Casing	Well Development
Date	Depth (ft)	Reference	Type: ENT	TER			ruck		✓ Hollow Stem Auger		Mud Rotary	✓ Road	ľ	Whale Pump
			Hammer (lb	130#			ATV		Cable Tool		Dual Rotary	Stan		☑ Bailer
			Fall (in):	30" FIELD	ı		Ггірос	Т	☐ Drive & Wash			☐ Non	e (temp. sticku	Peristaltic
DEPTH		BLOWS	PEN / REC	SCREENIN					SAMPLE DE	SCR	RIPTION			LITHOLOGIC
(FT)	SAMPLE ID	PER 6 IN	(IN)	G	WEL	L DE	TAIL		rmister Visual-Manual Id					DESCRIPTION
				(ppm)				(density/consistency, o	color, maximum particle siz descriptions, geolo			or, moisi	ure, optional	
- 0 -											•			
ľ	0-2			0				asphalt with coarse SAI	NDS					
:														
:														
- 5 -		_												
	5-7	2	24	48				grey medium to coarse	silty SANDS					
		5												
		2												_
		1												_
:														
- 10 <del>-</del>	10-12	7	78	78				dark coarse SANDS, sa	iturated sheen on wa	ter r	netroleum odor			
	10 12	6	7.0	,,,				dant odaroo o/ mabo, od	itaratoa, oncon on wa	ιοι, μ	octroioum odor			
:		7												
		11												
- 15 -														
	15-17	12		9				dark coarse SANDS						
		14						set well at 15'						
:		10												
		8												
20														_
	NULAR SOILS	СОН	ESIVE SOIL	S L	EGE	ND		INTERVAL (FT	SUMMARY		L	ITHOL	OGIC DESCRI	PTION
	FT CONSISTEN	W1 (110/05)	/F I		_	crete		ENTER BGS Overburde		ITER				
0 - 4	V. LOOSE		V. SOFT	7 🗖	Back				(=	ITER	-S- SAND		<del>-T-</del> TILL	
4 - 10	LOOSE		SOFT		Grou					ITER			###FILL	
10 - 30	M. DENSE		M. STIFF							ITER				CK / COMPETENT
30 - 50	DENSE		STIFF		•	dpac			diameter (in.ENTER roa			& GRA	VEL R/W ROC	K/WEATHERED
>50	V. DENSE	15 - 30 >30	V. STIFF HARD		Rise Scre		е	ENTER BGS Screen let ENTER BGS Screen slo	• ,	ITER ITER				
NOTES:		730	ואאט		ocie	जा।		PILLET DOOLOGE SIG		LK				



### NORTHEAST AUTO ACCESSORY SOIL QUALITY ANALYTICAL RESULTS SMS #20114197

Analytes	Risk-Based	MW-2	MW-3	MW-4	SB-7	
Allalytes	Standards	3/20/2012	3/20/2012	3/20/2012	3/20/2012	
Sample Interval (depth)		5-7	10-12	10-12	5-7	
PID Reading		44	84	78	82	
Volatile Organic Compounds	VT ANR Standard (mg/kg)		concentra	tion mg/kg		
Benzene	100.0	< 0.05	< 0.05	< 0.05	< 0.05	
Toluene	20,000	<0.05	< 0.05	< 0.05	0.05	
Ethylbenzene	14,000	< 0.05	0.24	< 0.05	0.23	
m&p-xylene	NA	< 0.05	0.40	0.22	0.51	
o-xylene	NA	< 0.05	0.11	< 0.05	0.24	
Total Detected Xylenes	200,000	<0.10	0.51	0.22	0.75	
Total Detected BTEX	NA	<0.25	0.75	0.22	1.03	
Volatile Organic Compounds	EPA Standard*		concentration mg/kg			
MTBE	70	<0.1	<0.1	0.22	<0.1	
sec-Butylbenzene	220	< 0.05	0.30	< 0.05	< 0.05	
n-Butylbenzene	240	< 0.05	0.82	< 0.05	0.13	
tert-Butylbenzene	390	< 0.05	< 0.05	< 0.05	< 0.05	
1,2,4-Trimethylbenzene	170	< 0.05	1.7	0.29	0.77	
1,3,5-Trimethylbenzene	70	< 0.05	0.81	0.08	0.33	
n-Propylbenzene	240	< 0.05	0.35	< 0.05	0.17	
p-Isopropyltoluene	N/A	< 0.05	0.30	< 0.05	< 0.05	
Isopropylbenzene	2,000	< 0.05	0.16	< 0.05	0.05	
Naphthalene	190	<0.1	1.6	0.4	0.1	
TPH-DRO		310	770	130	<8	

<sup>\*</sup> EPA Region IX Preliminary Remediation Goals for Industrial Soils



# $\mathcal{N}_{\mathcal{N}}$

### eastern analytical

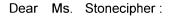
Jennifer Stonecipher
Horizons Engineering PLLC
34 School Street
Littleton, NH 03561

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 108612

Client Identification: Northeast Auto | 11217

Date Received: 3/22/2012



Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

"less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

3.29.12

Date

# of pages (excluding cover letter)



### SAMPLE CONDITIONS PAGE

EAI ID#: 108612

Client: Horizons Engineering PLLC

Client Designation: Northeast Auto | 11217

#### Temperature upon receipt (°C): 5.5

#### Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix		Exceptions/Comments (other than thermal preservation)
108612.01	MW-2	3/22/12	3/20/12	soil	85.0	Adheres to Sample Acceptance Policy
108612.02	MW-3	3/22/12	3/20/12	soil	89.2	Adheres to Sample Acceptance Policy
108612.03	MW-4	3/22/12	3/20/12	soil	79.2	Adheres to Sample Acceptance Policy
108612.04	SB-7	3/22/12	3/20/12	soil	85.1	Adheres to Sample Acceptance Policy
108612.05	Trip Blank	3/22/12	3/20/12	soil	100.0	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater: Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992





EAI ID#: 108612

Client: Horizons Engineering PLLC

Client Designation: Northeast Auto | 11217

	-				
Sample ID:	MW-2	MVV-3	MW-4	SB-7	Trip Blank
Lab Sample ID:	108612.01	108612.02	108612.03	108612.04	108612.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	3/20/12	3/20/12	3/20/12	3/20/12	3/20/12
Date Received:	3/22/12	3/22/12	3/22/12	3/22/12	3/22/12
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Analysis:	3/23/12	3/23/12	3/23/12	3/23/12	3/23/12
Analyst:	VG	VG	VG	VG	VG
Method:	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1
Dichlorodifluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromomethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethyl Ether	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acetone	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	< 0.05 < 0.1	< 0.05 < 0.1	< 0.05 < 0.1	< 0.05 < 0.1	< 0.05 < 0.1
Methylene chloride Carbon disulfide	< 0.1 < 0.1	< 0.1	< 0.1 < 0.1	< 0.1	< 0.1 < 0.1
Methyl-t-butyl ether(MTBE)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
trans-1,2-Dichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,2-Dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Butanone(MEK)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrahydrofuran(THF)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	< 0.05 < 0.05	< 0.05	< 0.05 < 0.05	< 0.05	< 0.05
Carbon tetrachloride	< 0.05	< 0.05 < 0.05	< 0.05	< 0.05 < 0.05	< 0.05 < 0.05
1,1-Dichloropropene Benzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromomethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromodichloromethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dioxane	< 3	< 3	< 3	< 3	< 3
4-Methyl-2-pentanone(MIBK)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	< 0.05	< 0.05	< 0.05	<b>0.05</b> < 0.05	< 0.05
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	< 0.05 < 0.05	< 0.05 < 0.05	< 0.05 < 0.05	< 0.05 < 0.05	< 0.05 < 0.05
2-Hexanone	< 0.05 < 0.1	< 0.05	< 0.05	< 0.05 < 0.1	< 0.05 < 0.1
Tetrachloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dibromoethane(EDB)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	< 0.05	0.24	< 0.05	0.23	< 0.05
mp-Xylene	< 0.05	0.40	0.22	0.51	< 0.05
o-Xylene	< 0.05 < 0.05	<b>0.11</b> < 0.05	< 0.05 < 0.05	<b>0.24</b> < 0.05	< 0.05 < 0.05
Styrene	> 0.03	~ 0.03	> 0.05	> 0.05	> 0.05





EAI ID#: 108612

Client: Horizons Engineering PLLC

Client Designation: Northeast Auto | 11217

Sample ID:	MW-2	MW-3	MW-4	SB-7	Trip Blank
Lab Sample ID:	108612.01	108612.02	108612.03	108612.04	108612.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	3/20/12	3/20/12	3/20/12	3/20/12	3/20/12
Date Received:	3/22/12	3/22/12	3/22/12	3/22/12	3/22/12
Units:			mg/kg		
	mg/kg	mg/kg		mg/kg	mg/kg
Date of Analysis:	3/23/12	3/23/12	3/23/12	3/23/12	3/23/12
Analyst:	VG	VG	VG	VG	VG
Method:	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1
Bromoform	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
IsoPropylbenzene	< 0.05	0.16	< 0.05	0.05	< 0.05
Bromobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,3-Trichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Propylbenzene	< 0.05	0.35	< 0.05	0.17	< 0.05
2-Chlorotoluene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorotoluene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3,5-Trimethylbenzene	< 0.05	0.81	0.08	0.33	< 0.05
tert-Butylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trimethylbenzene	< 0.05	1.7	0.29	0.77	< 0.05
sec-Butylbenzene	< 0.05	0.30	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p-Isopropyltoluene	< 0.05	0.30	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Butylbenzene	< 0.05	0.82	< 0.05	0.13	< 0.05
1,2-Dibromo-3-chloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	< 0.05 < 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	< 0.1 < 0.05	<b>1.6</b> < 0.05	<b>0.4</b> < 0.05	<b>0.1</b> < 0.05	< 0.1 < 0.05
1,2,3-Trichlorobenzene		128 %R			
4-Bromofluorobenzene (surr) 1,2-Dichlorobenzene-d4 (surr)	110 %R 101 %R	128 %R 100 %R	104 %R 98 %R	105 %R 99 %R	102 %R 101 %R
Toluene-d8 (surr)	101 %R 104 %R	100 %R 109 %R	103 %R	105 %R	101 %R 125 %R

The values for n-Butylbenzene may be elevated due to non-target interference.





EAI ID#: 108612

Client: Horizons Engineering PLLC

Client Designation: Northeast Auto | 11217

Sample ID:	MW-2	MW-3	MW-4	SB-7
Lab Sample ID:	108612.01	108612.02	108612.03	108612.04
Matrix:	soil	soil	soil	soil
Date Sampled:	3/20/12	3/20/12	3/20/12	3/20/12
Date Received:	3/22/12	3/22/12	3/22/12	3/22/12
Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	3/22/12	3/22/12	3/22/12	3/22/12
Date of Analysis:	3/23/12	3/23/12	3/23/12	3/23/12
Analyst:	LAS	LAS	LAS	LAS
Method:	8015CDRO	8015CDRO	8015CDRO	8015CDRO
Dilution Factor:	1	5	2	1
DRO (Diesel Range C10-C28)	310	770	130	< 8
p-Terphenyl-D14 (TPH surr)	69 %R	91 %R	88 %R	70 %R

# CHAIN-OF-CUSTODY RECORD

BOLD FIELDS REQUIRED PLEASE CIRCLE REQUESTED ANALYSIS

108612

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								S	VO	C		TCLF	ME	TALS			NO	ORC	AN	IIC:	S		Mi	CRO	O.	THEF	2		
Sample I.D.	Sampling Date / Time  *If Composite, Indicate Both Start & Finish Date / Time	MATRIX (SEE BELOW)	RAB/*COMPOSITE	524.2 524.2 BTEX 524.2 MTBE ONLY 8260B.> 624 VTICs 1.4 DIOMANE EDB DBCP	8021B BTEX HALOS	Ξ	8270D 625 SVTICS ABN A BN PAH	l	1	PEST 608 PCB 608 PEST 8081A PCB 8082	664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	OTAL METALS (LIST BELOW)	TSS TDS SPEC. CON.	Br Cl F 504 NO, NO, NO,NO,	8	TKN NH3 T. PHOS. O. PHOS.	T. RES. CHLORINE	COD PHENOLS TOC DOC	TOTAL CIANIDE TOTAL SULFIDE	ACTIVE CYANIDE REACTIVE SULFIDE ASHPOINT GNITABILITY	TAL COLIFORM E. COLI	ENTEROCOCCI HETEROTROPHIC PLATE COUNT	8015 M		OF CONTAINERS	<b>N</b> oti MeOH Via	
COD Morris	DATE / TIME	2.	0	Z Z 29.	8	8	A 82	<u> </u>	8	22	5	25	ā	2	⋍	E Z	<u> </u>	<b>  </b>	퓝	8	్డి	22	은프	: <u>5</u> =			#		
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MW-2 MW-3	3/20/12 10		-	X								-			<del> </del>	-	-		-					-	X		-		
MW-3															ļ			ļ	-						$  \cdot  $		-		
MW-Y	3120112														<u> </u>														
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MATRIX: A-Air; S-Soil; GW-Ground Water	. CW_CIIREACE WATER DW_DRINK	ING W	ATER									ļ		<u> </u>		-	ļ	<u> </u>					ļ				-		
WW-WASTE WATER		1110 11	AILN,																										
PRESERVATIVE: H-HCL; N-HNO <sub>3</sub> ; S-H <sub>2</sub> SO <sub>4</sub> ; N	Na-NaOH; M-MEOH					l				ii	İ	<u> </u>	<u> </u>	İ	L	1	1	l	L	l		İ	<u> </u>	l			<u> </u>	<u> </u>	
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COMPANY: HOVIZO	1 <u></u>				OA	/QC					1	REPO	RTIN	G O	PTIO	 NS					- 11	Отні	R MET	Γ <b>Δ</b> Ι <b>ζ</b> ·					
ADDRESS: 34 School	015						ING I	LEVE	L		1		s: Yes				Ľ	LE! (	(III)	) NU					_	_			
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professional laboratory services

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

# NORTHEAST AUTO ACCESSORY GROUNDWATER QUALITY ANALYTICAL RESULTS SMS #20114197

Analysis	VTANR F	Risk-Based	MW-1	MW-2	MW-3	MW-4
Analytes	Standa	rds (ug/L)	04/13/12	04/13/12	04/13/12	4/13/12 *
Top of Casing			609.77	608.91	607.74	608.43
Depth to Water			5.02	4.40	5.90	5.90
Depth to Product						
Product Thickness			0.00	0.00	1.50	0.00
Water Table Elevation			604.75	604.51	602.95	602.53
Volatile Organic Compounds	Enforcement Standard	Preventive Action Level	CONCE	NTRATION, u	ıg/L (ppb)	
Benzene	5	0.5	<1	<1		12
Tolulene	1,000	500	<1	<1		3
Ethylbenzene	700	350	<1	<1		7
m&p-xylene	NA	NA	<1	<1		31
o-xylene	NA	NA	<1	<1		34
Total Detected Xylenes	10,000	5,000	<2	<2		65
Total Detected BTEX	NA	NA	<5	<5		87
Methyl-t-butyl-ether (MTBE)	40	20	<5	<5		28
2-Butanone (MEK)	4,200	2,100	<10	<10		<10
sec-Butylbenzene	NA	NA	<1	<1		2
n-Butylbenzene	NA	NA	<1	<1		<1
tert-Butylbenzene	NA	NA	<1	<1		<1
1,2,4-Trimethylbenzene	5	2.5	<1	4		85
1,3,5-Trimethylbenzene	4	2	<1	<1		23
n-Propylbenzene	NA	NA	<1	<1		3
p-Isopropyltoluene	NA	NA	<1	<1		4
Isopropylbenzene	NA	NA	<1	<1		2
Naphthalene	20	10	<5	<5		62
DRO (Diesel Range Organics)	NA	NA	<0.1	34		15

#### Notes:

< = Detected analyte concentration below indicated laboratory detection limit.</p>
Concentrations listed in **bold** equal to or greater than applicable VTANR standard.
NA = Standard not available.



<sup>\*</sup> Lab results were incorrectly labeled MW-3 for this round.



Jennifer Stonecipher
Horizons Engineering PLLC
34 School Street
Littleton, NH 03561

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 109329

Client Identification: NE Auto / 11217 | Apr. 2012

Date Received: 4/16/2012



Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit</p>

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

4.23.12

Date

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# of pages (excluding cover letter)



# SAMPLE CONDITIONS PAGE

EAI ID#: 109329

Client: Horizons Engineering PLLC

Client Designation: NE Auto / 11217 | Apr. 2012

Temperature upon receipt (°C): 2.5

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
109329.01	MW-1	4/16/12	4/13/12	aqueous	Adheres to Sample Acceptance Policy
109329.02	MW-2	4/16/12	4/13/12	aqueous	Adheres to Sample Acceptance Policy
109329.03	M/W-3	4/16/12	4/13/12	aqueous	Adheres to Sample Acceptance Policy

MW-4 per field notes. Horizons Engineering error on chain of custody.

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater: Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992

eastern analytical, inc.

www.eailabs.com

Phone: (603) 228-0525



EAI ID#: 109329

Client: Horizons Engineering PLLC

Client Designation: NE Auto / 11217 | Apr. 2012

Sample ID:	MVV-1	MVV-2	MW-3	MW-
Lab Sample ID:	109329.01	109329.02	109329.03	
Matrix:	aqueous	aqueous	aqueous	
Date Sampled:	4/13/12	4/13/12	4/13/12	
Date Received:	4/16/12	4/16/12	4/16/12	
Units:	ug/i	ug/l	ug/l	
Date of Analysis:	4/18/12	4/18/12	4/18/12	
Analyst:	BAM	BAM	BAM	
Method:	8260B	8260B	8260B	
Dilution Factor:	1	1	1	
Dichlorodifluoromethane	< 5	< 5	< 5	
Chloromethane	< 2	< 2	< 2	
Vinyl chloride	< 2	< 2	< 2	
Bromomethane	< 2	< 2	< 2	
Chloroethane	< 5	< 5	< 5	
Trichlorofluoromethane	< 5	< 5	< 5	
Diethyl Ether	< 5	< 5	< 5	
Acetone	< 10 < 1	< 10 < 1	< 10 < 1	
1,1-Dichloroethene Methylene chloride	< 5	< 5	< 5	
Carbon disulfide	< 5	< 5	< 5	
Methyl-t-butyl ether(MTBE)	< 5	< 5	28	
trans-1,2-Dichloroethene	< 2	< 2	< 2	
1,1-Dichloroethane	< 2	< 2	< 2	
2,2-Dichloropropane	< 2	< 2	< 2	
cis-1,2-Dichloroethene	< 2	< 2	< 2	
2-Butanone(MEK)	< 10	< 10	< 10	
Bromochloromethane	< 2	< 2	< 2	
Tetrahydrofuran(THF)	< 10	< 10	< 10	
Chloroform	< 2 < 2	< 2 < 2	< 2 < 2	
1,1,1-Trichloroethane Carbon tetrachloride	< 2	< 2	< 2	
1,1-Dichloropropene	< 2	< 2	< 2	
Benzene	< 1	< 1	12	
1,2-Dichloroethane	< 2	< 2	< 2	
Trichloroethene	< 2	< 2	< 2	
1,2-Dichloropropane	< 2	< 2	< 2	
Dibromomethane	< 2	< 2	< 2	
Bromodichloromethane	< 1	< 1	< 1	
1,4-Dioxane	< 50	< 50	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	
cis-1,3-Dichloropropene	< 1	< 1	< 1	
Toluene	< 1	< 1	3	
trans-1,3-Dichloropropene	< 1 < 2	< 1 < 2	< 1 < 2	
1,1,2-Trichloroethane	< 10	< 10	< 10	
2-Hexanone Tetrachloroethene	< 2	< 2	< 2	
1,3-Dichloropropane	< 2	< 2	< 2	
Dibromochloromethane	< 2	< 2	< 2	
1,2-Dibromoethane(EDB)	< 1	< 1	< 1	
Chlorobenzene	< 2	< 2	< 2	
1,1,1,2-Tetrachloroethane	< 2	< 2	< 2	
Ethylbenzene	< 1	< 1	7	
mp-Xylene	< 1	< 1	31	
o-Xylene	< 1	< 1	34	
Styrene	< 1	< 1	< 1	

Phone: (603) 228-0525



EAI ID#: 109329

Client: Horizons Engineering PLLC

Client Designation: NE Auto / 11217 | Apr. 2012

Sample ID:         MW-1         MW-2         MW-3           Lab Sample ID:         109329.01         109329.02         109329.03           Matrix:         aqueous         aqueous         aqueous           Date Sampled:         4/13/12         4/13/12         4/13/12         4/13/12         4/16/12           Units:         ug/l         ug/l         ug/l         ug/l         ug/l           Date of Analysis:         4/18/12				
Matrix:         aqueous         aqueous         aqueous           Date Sampled:         4/13/12         4/13/12         4/13/12           Date Received:         4/16/12         4/16/12         4/16/12           Units:         ug/l         ug/l         ug/l           Date of Analysis:         4/18/12         4/18/12         4/18/12           Analyst:         BAM         BAM         BAM           Method:         8260B         8260B         8260B           Bilution Factor:         1         1         1           Bromoform         <2	Sample ID:	MVV-1	MW-2	MW-3
Matrix:         aqueous         aqueous         aqueous           Date Sampled:         4/13/12         4/13/12         4/13/12           Date Received:         4/16/12         4/16/12         4/16/12           Units:         ug/l         ug/l         ug/l           Date of Analysis:         4/18/12         4/18/12         4/18/12           Analyst:         BAM         BAM         BAM         BAM           Method:         8260B         8260B         8260B           Dilution Factor:         1         1         1           Bromoform         <2				
Matrix:         aqueous         aqueous         aqueous           Date Sampled:         4/13/12         4/13/12         4/13/12           Date Received:         4/16/12         4/16/12         4/16/12           Units:         ug/l         ug/l         ug/l           Date of Analysis:         4/18/12         4/18/12         4/18/12           Analyst:         BAM         BAM         BAM           Method:         8260B         8260B         8260B           Dilution Factor:         1         1         1           Bromoform         <2				
Date Sampled:         4/13/12         4/13/12         4/13/12         4/13/12         4/13/12         4/13/12         4/13/12         4/13/12         4/13/12         4/16/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12         4/18/12	Lab Sample ID:	109329.01	109329.02	109329.03
Date Sampled:         4/13/12         4/13/12         4/13/12         4/16/12         4/18/12	Matrix:	aqueous	aqueous	agueous
Date Received:         4/16/12         4/16/12         4/16/12         4/16/12         4/16/12         Ug/I         ug/I         ug/I         ug/I           Date of Analysis:         4/18/12 <td< td=""><td>Date Sampled:</td><td></td><td>4/13/12</td><td>•</td></td<>	Date Sampled:		4/13/12	•
Units: ug/l ug/l ug/l Date of Analysis: 4/18/12 4/18/12 4/18/12 Analyst: BAM BAM BAM BAM Method: 8260B 8260B 8260B Dilution Factor: 1 1 1 1 Bromoform				
Date of Analysis:         4/18/12				
Analyst:         BAM         BAM         BAM           Method:         8260B         8260B         8260B           Dilution Factor:         1         1         1           Bromoform         < 2		=	=	_
Method:         8260B         8260B         8260B           Dilution Factor:         1         1         1           Bromoform         < 2	Date of Analysis:	4/18/12	4/18/12	4/18/12
Dilution Factor:         1         1         1           Bromoform         <2	Analyst:	BAM	BAM	BAM
Dilution Factor:         1         1         1           Bromoform         <2	Method:	8260B	8260B	8260B
Bromoform         < 2	Dilution Factor:			
IsoPropylbenzene				
Bromobenzene       <2				
1,1,2,2-Tetrachloroethane       < 2			•	
1,2,3-Trichloropropane       < 2		_		
n-Propylbenzene       < 1				
2-Chlorotoluene       < 2				
4-Chlorotoluene       <2		·		
1,3,5-Trimethylbenzene       < 1	4-Chlorotoluene	_		
tert-Butylbenzene       < 1	1,3,5-Trimethylbenzene			
sec-Butylbenzene       < 1		< 1	< 1	
1,3-Dichlorobenzene       < 1		· · · · · · · · · · · · · · · · · · ·	4	85
p-Isopropyltoluene       < 1				
1,4-Dichlorobenzene       < 1			-	· ·
1,2-Dichlorobenzene       < 1		•	,	-
n-Butylbenzene       < 1			•	•
1,2-Dibromo-3-chloropropane       < 1		•	•	•
1,2,4-Trichlorobenzene       < 1		•		•
Hexachlorobutadiene       < 1		•	•	-
Naphthalene       < 5		<del>-</del>	•	•
1,2,3-Trichlorobenzene       < 1				•
4-Bromofluorobenzene (surr) 94 %R 104 %R 103 %R 1,2-Dichlorobenzene-d4 (surr) 112 %R 107 %R 110 %R			_	
1,2-Dichlorobenzene-d4 (surr) 112 %R 107 %R 110 %R				•
The state of the s				
100 MK 93 MK 101 MK	Toluene-d8 (surr)	100 %R	99 %R	101 %R





EAI ID#: 109329

Horizons Engineering error

Client: Horizons Engineering PLLC

Client Designation: NE Auto / 11217 | Apr. 2012

			_	
Sample ID:	MW-1	MW-2	MW-3	MW-4 per field notes. Horizons Engineering
				on chain of custody.
Lab Sample ID:	109329.01	109329.02	109329.03	
Matrix:	aqueous	aqueous	aqueous	
Date Sampled:	4/13/12	4/13/12	4/13/12	
Date Received:	4/16/12	4/16/12	4/16/12	
Units:	mg/L	mg/L	mg/L	
Date of Extraction/Prep:	4/17/12	4/17/12	4/17/12	
Date of Analysis:	4/17/12	4/17/12	4/17/12	
Analyst:	LAS	LAS	LAS	
Method:	8015CDRO	8015CDRO	8015CDRO	
Dilution Factor:	1	5	5	
DRO (Diesel Range C10-C28)	< 0.1	34	15	
p-Terphenyl-D14 (TPH surr)	71 %R	101 %R	143 %R	

MW-3: TPH surrogate exceeded method limits (30 - 130 %R). The high recovery was confirmed by re-analysis. Matrix interference is suspected as the Batch QC demonstrated acceptable recoveries.

	eastern analytical	, inc.	CHAIN-OF-CUSTODY RECORD	<u> </u>
<u> </u>	professional laboratory se	rvices		109329
Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
ЛVV-1	130	aqueous Grab or Comp	AqTot/VNH8260BFullList/V8015	
Sampler conf	irms ID and parameters	are accurate	Circle preservative/s: HCL HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> NaOH MEOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ICE	Dissolved Sample Field Filtered
/W-2	4/13	aqueous (rab or Comp	AqTot/VNH8260BFullList/V8015	
Sampler conf	irms ID and parameters	are accurate	Circle preservative/s: HCL HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> NaOH MEOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ICE	Dissolved Sample Field Filtered
MW 3	14117		AqTot/VNH8260BFullList/V8015@RO DRO	

MW-4 former UST location (per field notes) Horizons Eng. label error. Dissolved Sample Field Filtered Sampler confirms ID and parameters are accurate Circle preservative/s: HCL HNO<sub>3</sub> H<sub>2</sub>SO<sub>4</sub> NaOH MEOH Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> ICE AgTot/VNH8260BFullList/V8015@DICO

aqueous MW-3 per field Grab of Comp notes. Sampler confirms ID and parameters are accurate

Circle preservative/s: HCL HNO<sub>3</sub> H<sub>2</sub>SO<sub>4</sub> NaOH MEOH Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> ICE

Free Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

		-		
EAI Project ID 0		Results Needed by: Preferred date	ReportingOptions	
Project Name N	E Auto / 11217   Apr. 2012	Notes about project: (i.e. Special Limits, Billing info	□нс	PONumber: Verbal
State V	Т	if different)	☑ EDD PDF ☑ EDD email	Quote No: 2,5 °C
Client (Pro Mgr)	Jennifer Stonecipher	DRO <u>NOT</u> GRO	□ PDF prelim, NO FAX     □ e-mail Login Confirmation	Temperature Yes I No E
Customer 1	Horizons Engineering PLLC		□ NO FAX	ice present 103 to 100 c
Address	34 School Street	Vt. Pet. fund	Samples Callected by:	155
City I	Littleton NH 03561			4/18/12 (188)
Phone 444-4111	Fax 444-1343 (12)	QC deliverables	Relinquished by 1	Date/Time Received by
EmailAddress: js	tonecipher@horizonsengineering.co	⊠A □A+ □B □B+ □C □PC		Date/Time Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Fax: (603)228-4591





State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Waste Management Division
103 South Main Street/West Building
Waterbury, VT 05671-0404
FAX 802-241-3296
TEL 802-241-3888

August 19, 2011

ATTN JERRY KNOWLTON NORTHEAST AUTO ACCESSORY 684 PORTLAND STREET ST JOHNSBURY VT 05819

RE: Petroleum Contamination from #2 Fuel Oil UST (UST Facility ID# 5550565) at Northeast Collision Center St Johnsbury, VT - Site # 20114197

Dear Mr. Knowlton:

The Vermont Department of Environmental Conservation, Waste Management Division, Sites Management Section (SMS) has received a site referral from the VT Underground Storage Tank (UST) Program which includes a report from Horizons Engineering dated June 20, 2001 documenting the site conditions during the permanent closure of two out-of-service USTs at the above location.

During closure of the two 1,000-gal #2 fuel oil USTs on May 13, 2011, the tanks were found to be in poor condition with visible rusting, pitting, and holes. During closure of the UST at the back of the facility, petroleum contaminated soil (PCS) was found in the fill pipe area and at the tank ends, sides, and bottom. Soil staining, petroleum odors, and photoionization detector (PID) readings of up to 48 parts per million (ppm) were observed. Groundwater was encountered at six feet below ground surface (bgs) and a slight sheen was observed. Further excavation revealed that the extent of contamination was limited and excavation continued until PID readings ranged from 4.8 to 9 ppm at the extent of the excavation. Samples were collected at the extent of contamination and analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). No target analytes were detected. A total of 59.66 tons of PCS were disposed of at ESMI in Loudon, NH and no additional work is required to mitigate the release in the area of the property.

During closure of the UST at the front of the property, PCS was found in the fill pipe area and at the tank ends, sides, and bottom. Excavation was extended in an attempt to remove all the contamination but overhead electrical lines, road right-of-way, and the presence of a building foundation prevented complete removal. Product was observed on the groundwater table at 8.5 feet bgs and was recovered with absorbent pads. Final PID readings at the extent of the contamination were 40 ppm at the bottom and west sidewall, 89 ppm at the east sidewall, and 120 ppm at the north side wall. Although not all the contamination could be removed and the extent of the contamination could not be determined, the disposal of the 51.55 tons of PCS was approved by the SMS to reduce the contaminant mass and reduce cleanup time.

Based on the above information, the SMS has determined that additional work is necessary at the site in order to determine the severity of contamination present in the area of the former UST at the front of the property. Due to the possibility of contaminant impact to nearby receptors, the SMS is requesting that Northeast Auto Accessory retain the services of a qualified environmental consultant to perform the following:

• Further define the degree and extent of contamination to the soil. Obtaining soil borings, digging test pits, or performing a soil gas survey may accomplish this.

Determine the degree and extent of contamination, if any, to groundwater. If soil is found to contain evidence of contamination at the water table, then a sufficient number of monitoring wells should be installed in locations that will adequately define the severity of

contamination at the site. All groundwater samples taken should be analyzed for VOCs by EPA Method 8260 and for TPH by EPA Method 8015 DRO.

- Perform an assessment of the site to determine the potential for sensitive receptors to be impacted by the contamination. This should include basements of adjacent buildings, nearby surface water, storm water drainage systems, and any public or private drinking water wells that are located within the vicinity of the site. If any water supplies appear at risk from this contamination, they should be sampled and analyzed using EPA 524.2 or an acceptable alternative.
- Determine the need for a long-term treatment and/or monitoring plan that addresses the contamination present at the site. The need for such a plan should be based on the results of the above investigations.
- Actively recover any free product measured in the ground in excess of 1/8". If this is done manually, a log must be maintained which documents the dates product is measured, the thickness of the product and the amount removed.
- Submit to the WMD a summary report that outlines the work performed as well as provides conclusions and recommendations. Included should be detailed well logs, analytical data, site map, area map, and a groundwater contour map.

Please have your consultant submit a preliminary work plan and cost estimate within fifteen days of your receipt of this letter so that it may be approved prior to the initiation of onsite work.

The USTs at Northeast Collision Center in St. Johnsbury are covered by the Petroleum Cleanup Fund (PCF) as set forth in 10 V.S.A. Section 1941 as long as no private insurance exists which would apply to this situation. You must provide proof of no insurance before the PCF can be used to reimburse these expenses. An owner or permittee of a tank, who is not in significant violation of his or her permit, is eligible for reimbursement from the fund. The owner or permittee must pay for the removal or repair of the failed (or abandoned) tank and for the first \$250 of the cleanup for each tank covered (\$500 total for this site); after that the fund will reimburse the tank owner or permittee for additional cleanup costs up to \$1 million. The fund may not pay for cleanup costs which are for cleanup work that is not preapproved by the Agency. For further information on this program, please refer to the guidance document titled, "Procedures for Reimbursement from the Petroleum Cleanup Fund" which may be viewed at: <a href="http://www.anr.state.vt.us/dec/wastediv/sms/pubs/PCFReimb.pdf">http://www.anr.state.vt.us/dec/wastediv/sms/pubs/PCFReimb.pdf</a>. Additionally, the Secretary of the Agency of Natural Resources reserves the right to seek cost recovery of fund monies spent at the Northeast Collision Center site if the Secretary concludes that Northeast Auto Accessory is in significant violation of the Vermont Underground Storage Tank Regulations and the Underground Storage Tank statute (10 V.S.A., Chapter 59). If you have any questions or comments, please feel free to contact me.

If you have any questions or comments, please feel free to contact me by phone at (802) 241-3896, by email at <a href="mailto:tim.cropley@state.vt.us">tim.cropley@state.vt.us</a>, or in writing at the above address.

Sincerely,

Timothy F. Croples

Hazardous Materials Specialist

cc: Jennifer Stonecipher, Horizons Engineering (email only)

St. Johnsbury Selectboard

St. Johnsbury Health Officer

Steve Rebillard, DEC St. Johnsbury Regional Office (email only)

 $TC/tc/\lightharmode (Collision Center) 2011.0819.1st. Ltr. document (Collisi$ 

**From:** Jennifer Stonecipher [jstonecipher@horizonsengineering.com]

Sent: Thursday, January 26, 2012 7:53 PM To: vcarr@horizonsengineering.com

Subject: Fwd: RE: Northeast Auto Accessory Site # 20114197

Thanks Jennifer. The cost estimate is accepted with some minor adjustments.

- Please be sure to bill the current GSA mileage rate throughout the invoicing. Mileage rate used in Task I was \$0.55 instead of the allowed \$0.51/per mile.
- Note that the costs presented include a total estimated cost of \$1,730.00 for reporting costs. The max for this work is generally \$1,600 unless the site manager determines that more is required to adequately report site findings and recommendations. I request that you attempt to further reduce costs for Task IV to \$1,600 if at all possible.

Please ensure that invoices and RP info on reimbursement forms match when they are submitted for review. You may proceed with the proposed work at the costs outlined in the cost estimate dated 11/28/2011 except as noted above. Please let me know if you have any questions.

Thanks Jennifer.

#### Tim

Timothy J. Cropley - Hazardous Materials Specialist Waste Management Division 103 So. Main St, Waterbury VT 05671-0404 email - tim.croplev@state.vt.us

Phone - (802) 241-3896 Fax - (802) 241-3296

Check out the Vermont Department of Environmental Conservation Web Page at: http://www.anr.state.vt.us/dec/dec.htm

Please consider the environment before printing this e-mail

**From:** Jennifer Stonecipher [mailto:jstonecipher@horizonsengineering.com]

Sent: Thursday, January 26, 2012 4:23 PM

To: Cropley, Tim

Subject:

Tim, attached is the work scope that I submitted on November 28, 2011 to your office. Somehow, it apparently did not make it to you. I apologize for the inconvenience.

**Jennifer Stonecipher Environmental Project Manager Horizons Engineering** 34 School Street Littleton, New Hampshire Phone: (603) 444-4111

istonecipher@horizonsengineering.com

Fax: (603) 444-1343

## HORIZONS ENGINEERING Inc.

# **Budget Proposal Worksheet**

Project Name: Northeast Auto Accessory Project Description:Site Investigation

Project Number: 11217 SMS# 220114197

Proposed Completion Deadline: November 11, 2011

#### **TASK I: Project Coordination**

Obtain Digsafe utility clearance, and coordinate with drilling and laboratory contractors and site owner.

Labor	Rate	Hours	Total	Subcontractors	Rate	Units	Total
Principal	\$150.00		\$0.00				
Const Mgr	\$105.00		\$0.00				1
Project Manager	\$95.00	2	\$190.00				
Proj Eng/Sci	\$75.00	2	\$150.00		•	Subtotal	\$0.00
Staff Eng/Sci	\$65.00		\$0.00	Analytical	Rate	Units	Total
Tech	\$65.00	1	\$0.00				
Clerical	\$55.00	1	\$55.00				J
,	·         [	Subtotal	\$395.00				
Expenses	Cost	Units	Total			ł	
Misc hand tools	\$25.00		\$0.00		!		ļ
Hand auger	\$50.00		\$0.00				
PID	\$75.00		\$0.00			J	
Dig camera pics	\$0.50		\$0.00				1
Mileage	\$0.50	50	\$25.00		1		
_		Subtotal	\$25.00	_		Subtotal	\$0.00
	Subtotal En	gineering	\$420.00		Subtotal S	ubs and Lab	\$0.00
				L		TASK TOTAL	\$420.00

#### **TASK II: Monitoring Well Installation**

Horizons will oversee a day of soil borings. Horizons will conduct field PID soil screen. If contamination is detected on Day 1, Horizons will oversee the installation of up to four monitoring wells at the Site on Day 2. Wells will be installed using hollow-stem augers and constructed using two-inch diameter PVC well material. Each well will have a ten foot long section of machine slotted screen spanning the water table interface. In addition, Horizons will collect one soil sample from each boring for laboratory analysis. Scope assumes 4 wells each approximately 18 feet deep.

Labor	Rate	Hours	Total	Subcontractors	Rate	Units	Total
Principal	\$150.00		\$0.00	Mobilization	\$400.00	1	\$400.00
Const Mgr	\$105.00		\$0.00	Day Rate	\$1,350.00	2	\$2,700.00
Project Manager	\$95.00	16	\$1,520.00	Well Material	\$10.00	72	\$720.00
Proj Eng/Sci	\$75.00		\$0.00	Road Boxes	\$75.00	4	\$300.00
Staff Eng/Sci	\$65.00		\$0.00		'	Subtotal	\$4,120.00
Tech	\$65.00		\$0.00	Analytical	Rate	Units	Total
Clerical	\$40.00		\$0.00	8260B/8015DRO-soils	\$245	4	\$980.00
		Subtotal	\$1,520.00				
Expenses	Cost	Units	Total				
Field Kit	\$25.00	2	\$50.00				
Digital Camera	\$10.00	2	\$20.00				
Mileage	\$0.50	100	\$50.00				
PID	\$90.00	2	\$180.00				
•		Subtotal	\$300.00	•		Subtotal	\$980.0 <b>0</b>

Subtotal Engineering	\$1,820.00
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Subtotal Subs and Lab	\$5,100.00
<u> </u>	

TASK TOTAL

## TASK III: Survey and Sampling

Horizons will survey the relative locations and elevations of the newly installed wells and other prominent site features. We will then collect groundwater samples from each of the wells and submit them for laboratory VOC/TPH analysis. Sampling will be completed approximately two weeks after the wells are installed.

Labor	Rate	Hours	Total	Subcontractors	Rate	Units	Total
Principal	\$150.00		\$0.00	· <u>-</u>			\$0.00
Const Mgr	\$105.00		\$0.00				\$0.00
Project Manager	\$95.00	8	\$760.00				\$0.00
Proj Eng/Sci	\$75.00		\$0.00				\$0.00
Survey Tech	\$85.00	6	\$510.00		•	Subtotal	\$0.00
Senior Designer	\$75.00	6	\$450.00	Analytical	Rate	Units	Total
Clerical	\$40.00		\$0.00	8260B/8015-GW	\$245	4	\$980.00
		Subtotal	\$1,720.00				}
Ехрепѕеѕ	Cost	Units	Total				
Field Kit	\$25.00	1	\$25.00	`			
Bailers	\$10.00	4	\$40.00				ĺ
Mileage	\$0.50	50	\$25.00				
Survey Equip	\$85.00	1	\$85.00				
		Subtotal	\$175.00	_		Subtotal	\$980.00
ŀ	Subtotal Engineering \$1,895.		\$1,895.00		Subtotal Subs and Lab		\$980.00
•						TASK TOTAL	\$2,875.00

## **TASK IV: Report Preparation**

Horizons will prepare a report summarizing the well installations, field screening results, and soil and groundwater quality data. The report will include soil boring logs, site photographs, data summary tables, and a site plan showing the well locations and groundwater contours constructed based on water table elevation data. The report will also include recomendations for additional investigation and/or remediation, if merited.

Labor	Rate	Hours	Total	Subcontractors	Rate	Units	Total
Principal	\$160.00	1	\$160.00			_	
Const Mgr	\$105.00	ĺ	\$0.00			1	
Project Manager	\$95.00	8	\$760.00		ł		
Proj Eng/Sci	\$75.00	12	\$900.00				1
Staff Eng/Sci	\$65.00		\$0.00		•	Subtotal	\$0.00
Tech	\$65.00		\$0.00	Analytical	Rate	Units	Total
Clerical	\$55.00	2	\$110.00				
		Subtotal	\$1,930.00			}	
Expenses	Cost	Units	Total				
Reproduction	\$25.00	1	\$25.00				
			\$0.00				
			\$0.00				1
			\$0.00				
		Subtotal	\$25.00			Subtotal	\$0.00
	Subtotal Engineering				Subtotal Subs and Lab		\$0.00
				'		TASK TOTAL	\$1,955.00
Project Total \$12.170.00							