

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Hilcorp Energy Company	Contact Jennifer Deal
Address 9a CR 5793	Telephone No. (505) 324-5128
Facility Name Turner B Com 1A	Facility Type Gas Well

Surface Owner Private	Mineral Owner	API No. 30-045-22376
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LOCATION OF RELEASE

Unit Letter F	Section 02	Township 30N	Range 09W	Feet from the 1830	North/South Line North	Feet from the 1548	East/West Line West	County San Juan County
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Latitude 36.8424568 Longitude -107.7539749 NAD83

NATURE OF RELEASE

Type of Release Hydrocarbon/Oil	Volume of Release 40 BBLs	Volume Recovered 40bbls
Source of Release Tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 12/20/2017 @2:00pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Vanessa Fields & Brandon Foley	
By Whom? Paul Keloff	Date and Hour 12/21/2017 @9:00am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Operator noticed Over the Top spill on 400bbl oil tank. Oil stayed within secondary containment
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Describe Area Affected and Cleanup Action Taken.* Excavation was approximately 38'x7'x4' deep. Delineation by hand auger occurred on 1/25/2018. Approximately 101 yds of contaminated soil was transported to IEI land farm and approximately 90 yds of clean soil was transported from Mesa and placed in the excavation site. Confirmation sampling occurred on March 7 th where the South and North walls came back below the regulatory standards. Confirmation sampling occurred on May 7 th where the base came back below regulatory standards. Analytical results were below standards – no further action required. The soil sampling results and delineation report are attached for review.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
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Signature: <i>Jennifer Deal</i>	OIL CONSERVATION DIVISION	
Printed Name: Jennifer Deal	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Environmental Specialist	Approval Date: 6/18/18	Expiration Date:
E-mail Address: jdeal@hilcorp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 6/8/2018 Phone: (505) 324-5128		

* Attach Additional Sheets If Necessary

#WVF 18002405 65

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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 14, 2018

Jennifer Deal

HILCORP ENERGY

PO Box 4700

Farmington, NM 87499

TEL: (505) 564-0733

FAX

RE: Turner B Com 1A

OrderNo.: 1803519

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/9/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1803519

Date Reported: 3/14/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: North Wall

Project: Turner B Com 1A

Collection Date: 3/7/2018 12:10:00 PM

Lab ID: 1803519-001

Matrix: SOIL

Received Date: 3/9/2018 7:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/13/2018 10:27:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/13/2018 10:27:20 PM
Surr: DNOP	110	70-130		%Rec	1	3/13/2018 10:27:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/13/2018 11:14:52 AM
Surr: BFB	92.5	15-316		%Rec	1	3/13/2018 11:14:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	3/13/2018 11:14:52 AM
Benzene	ND	0.024		mg/Kg	1	3/13/2018 11:14:52 AM
Toluene	ND	0.048		mg/Kg	1	3/13/2018 11:14:52 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/13/2018 11:14:52 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/13/2018 11:14:52 AM
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	3/13/2018 11:14:52 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: Base

Project: Turner B Com 1A

Collection Date: 3/7/2018 12:10:00 PM

Lab ID: 1803519-002

Matrix: SOIL

Received Date: 3/9/2018 7:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	1800	100		mg/Kg	10	3/14/2018 12:04:32 AM
Motor Oil Range Organics (MRO)	1200	500		mg/Kg	10	3/14/2018 12:04:32 AM
Surr: DNOP	0	70-130	S	%Rec	10	3/14/2018 12:04:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	57	5.0		mg/Kg	1	3/13/2018 12:25:28 PM
Surr: BFB	428	15-316	S	%Rec	1	3/13/2018 12:25:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	3/13/2018 12:25:28 PM
Benzene	ND	0.025		mg/Kg	1	3/13/2018 12:25:28 PM
Toluene	ND	0.050		mg/Kg	1	3/13/2018 12:25:28 PM
Ethylbenzene	0.13	0.050		mg/Kg	1	3/13/2018 12:25:28 PM
Xylenes, Total	1.7	0.099		mg/Kg	1	3/13/2018 12:25:28 PM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	3/13/2018 12:25:28 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1803519

Date Reported: 3/14/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: South Wall

Project: Turner B Com 1A

Collection Date: 3/7/2018 12:10:00 PM

Lab ID: 1803519-003

Matrix: SOIL

Received Date: 3/9/2018 7:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	28	9.8		mg/Kg	1	3/14/2018 12:28:44 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/14/2018 12:28:44 AM
Surr: DNOP	112	70-130		%Rec	1	3/14/2018 12:28:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/13/2018 1:35:33 PM
Surr: BFB	97.4	15-316		%Rec	1	3/13/2018 1:35:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	3/13/2018 1:35:33 PM
Benzene	ND	0.024		mg/Kg	1	3/13/2018 1:35:33 PM
Toluene	ND	0.047		mg/Kg	1	3/13/2018 1:35:33 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/13/2018 1:35:33 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/13/2018 1:35:33 PM
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	3/13/2018 1:35:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803519

14-Mar-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	1803519-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	North Wall	Batch ID:	36967	RunNo:	49733					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1609973	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.5	47.48	2.472	94.6	55.8	125			
Surr: DNOP	5.0		4.748		106	70	130			

Sample ID	1803519-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	North Wall	Batch ID:	36967	RunNo:	49733					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1609975	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.2	46.08	2.472	94.4	55.8	125	3.03	20	
Surr: DNOP	4.9		4.608		106	70	130	0	0	

Sample ID	LCS-36967	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	36967	RunNo:	49733					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1610106	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID	MB-36967	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	36967	RunNo:	49733					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1610107	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803519

14-Mar-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	MB-36964	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	36964	RunNo:	49750					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1609795	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.8	15	316			

Sample ID	LCS-36964	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	36964	RunNo:	49750					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1609796	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	75.9	131			
Surr: BFB	1000		1000		104	15	316			

Sample ID	1803519-002AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	Base	Batch ID:	36964	RunNo:	49750					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1609800	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	75	4.7	23.67	56.62	77.4	77.8	128			S
Surr: BFB	3800		947.0		401	15	316			S

Sample ID	1803519-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	Base	Batch ID:	36964	RunNo:	49750					
Prep Date:	3/12/2018	Analysis Date:	3/13/2018	SeqNo:	1609801	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	61	4.8	24.11	56.62	17.7	77.8	128	20.7	20	RS
Surr: BFB	3200		964.3		328	15	316	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803519

14-Mar-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	MB-36964		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 36964		RunNo: 49750					
Prep Date:	3/12/2018		Analysis Date: 3/13/2018		SeqNo: 1609836		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	80	120			

Sample ID	LCS-36964		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36964		RunNo: 49750					
Prep Date:	3/12/2018		Analysis Date: 3/13/2018		SeqNo: 1609837		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	103	70.1	121			
Benzene	1.0	0.025	1.000	0	105	77.3	128			
Toluene	1.0	0.050	1.000	0	104	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	103	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	105	81.6	129			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.3	80	120			

Sample ID	1803519-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	North Wall		Batch ID: 36964		RunNo: 49750					
Prep Date:	3/12/2018		Analysis Date: 3/13/2018		SeqNo: 1609840		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.86	0.095	0.9524	0	90.7	72.5	138			
Benzene	0.97	0.024	0.9524	0	102	80.9	132			
Toluene	0.97	0.048	0.9524	0	102	79.8	136			
Ethylbenzene	0.95	0.048	0.9524	0	99.6	79.4	140			
Xylenes, Total	2.9	0.095	2.857	0	102	78.5	142			
Surr: 4-Bromofluorobenzene	0.89		0.9524		93.6	80	120			

Sample ID	1803519-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	North Wall		Batch ID: 36964		RunNo: 49750					
Prep Date:	3/12/2018		Analysis Date: 3/13/2018		SeqNo: 1609841		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	0.9980	0	102	72.5	138	16.1	20	
Benzene	1.1	0.025	0.9980	0	110	80.9	132	12.1	20	
Toluene	1.1	0.050	0.9980	0	110	79.8	136	11.8	20	
Ethylbenzene	1.1	0.050	0.9980	0	109	79.4	140	13.7	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803519

14-Mar-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	1803519-001AMSD	SampType: MSD			TestCode: EPA Method 8021B: Volatiles					
Client ID:	North Wall	Batch ID: 36964			RunNo: 49750					
Prep Date:	3/12/2018	Analysis Date: 3/13/2018			SeqNo: 1609841		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.3	0.10	2.994	0	111	78.5	142	12.8	20	
Surr: 4-Bromofluorobenzene	0.92		0.9980		92.6	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY FAR

Work Order Number: 1803519

RcptNo: 1

Received By: Isaiah Ortiz 3/9/2018 7:35:00 AM

IO

Completed By: Isalah Ortiz 3/9/2018 8:14:03 AM

IO

Reviewed By: ENM 3A/18

MW 3/9/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? _____
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record		Turn-Around Time:
Client: Hilcorp Energy	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush _____	
Mailing Address: PO Box 4700 Farmington, NM 87499	Project Name: Turner B Com 1A Project #: Turner B Com 1A	
Phone #: 505-324-5128	Project Manager: Jennifer Deal	
email or Fax#: jdeal@hilcorp.com		
QA/QC Package: <input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		
Accreditation: <input type="checkbox"/> NELAP <input type="checkbox"/> Other _____	Sampler: Chad Perkins On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> EDD (Type)	Sample Temperature: 1.0	

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



1920 W. Villa Maria, Ste. 205
Bryan, Texas 77807
979.324.2139
www.teamtimberwolf.com

February 16, 2018

Ms. Jennifer Deal
Hilcorp Energy Company
9A Road 5793
Farmington, New Mexico, 87401

Re: Collection and Analysis of Soil Samples
Turner B Com 1A Release
Dakota Basin, San Juan County, New Mexico
Timberwolf Project Number: HEC-180007

Dear Ms. Deal:

At the request of Hilcorp Energy Company (Hilcorp), Timberwolf Environmental, LLC (Timberwolf) presents this report to document the collection and analysis of soil samples following a crude oil release from the Turner B Com 1A (Site). The Site is located in the Dakota Basin, approximately 13.3 miles east of Aztec, San Juan County, New Mexico (Figures 1 – 3).

The release occurred when a 400 barrel (bbl) welded steel oil storage tank overflowed. An estimated 40 barrels (bbls) of crude oil were released. Released fluids were retained within the tank battery's firewall. Released fluids were recovered with vacuum trucks.

Regulatory Criteria

The New Mexico Oil Conservation Division (NMOCD) established remediation action levels for soils impacted by oilfield products or wastes, which are documented in the *Guidelines for Remediation of Leaks and Releases*. The closure criteria utilizes a ranking system that scores the potential to contaminate based upon a site's distance to water resources. The ranking system is summarized in Table 1 below.

Table 1. NMOCD Ranking System

Category	Distance to Resource (Feet)	Score
Depth to groundwater	< 50	20
	50 to 99	10
	> 100	0
Water wellhead protection	< 200	20
	> 200	0
Surface water protection	< 200	20
	200 to 1,000	10
	> 1,000	0

Sites receive a score from each category. The three (3) scores are summed to reach a total ranking score, providing corresponding site-specific remediation action levels.

Based on prior drilling activities in the Dakota Basin, the upper groundwater-bearing unit is expected to be encountered at greater than 100 feet below ground surface (ft bgs), which results in a score of zero (0). One (1) perennial surface water bodies was identified approximately 450 ft south of the Site, which results in a score of ten (10). No water wellheads are located within 200 ft of the Site, which results in a score of zero (0). Therefore, the total ranking score at the Site is zero (10). Based on the NMOCD criteria, the site-specific remedial action levels are presented in Table 2.

Table 2. NMOCD Remedial Action Levels by Total Ranking Score

Constituent	Total Ranking Score		
	> 19	10-19	0-9
	Corresponding Remedial Action Levels (mg/kg)		
Benzene	10	10	10
Total BTEX	50	50	50
TPH	100	1,000	5,000
Chlorides	250	500	1,000

BTEX – benzene, toluene, ethylbenzene and xylenes

TPH – total petroleum hydrocarbons

mg/kg – milligrams per kilogram

Bold - scores utilized for the Site

NMOCD – New Mexico Oil Conservation Division

At least ten vertical feet of soil with contaminant concentrations at or below the site's closure standards must be demonstrated as existing above the water table.

Collection and Analysis of Soil Samples

On 01/25/18, Timberwolf personnel collected soil samples to evaluate remedial efforts. Soil samples were collected from eleven (11) borings using a stainless steel handauger. Total depths of each boring ranged from 1 to 5 ft below ground surface (bgs). A photoionization detector (PID) was used to determine concentrations of constituents in the field.

Soils encountered at the Site consisted primarily of clayey loam and sand. Sample locations are shown in Figure 4. The location and purpose of each boring are presented in Table 3 below.

**Table 3. Location and Purpose of Soil Borings
Turner B Com 1A Release**

Soil Boring	Location – Purpose
SB1	Collected underneath tank to determine if tank removal is necessary to remediate impacted soil
SB2 and SB3	Collected from the body of the impacted area, to determine the degree and vertical extent of contamination
SB4, SB5, SB6, SB7, SB10, SB8, SB9, and SB11	Collected from the perimeter of the impacted area, for horizontal delineation

To eliminate cross contamination, the handauger and sampling equipment were decontaminated between samples using Alconox® and deionized water.

Soil samples were placed in laboratory-provided sample containers, stored on ice, and transported by courier under proper chain-of-custody protocol to Hall Environmental in Albuquerque, New Mexico. The laboratory report and chain-of-custody documents are attached; laboratory methods are presented in the laboratory report. Analytical results are summarized in Table 4.

**Table 4. Analytical Results of Soil Samples
Turner B Com 1A Release**

Sample ID	Volatile Organic Compounds (mg/kg)				Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
	B	T	E	X						
SB1 0.5-1.0'	< 0.025	< 0.05	< 0.05	< 0.099	< 0.099	< 5.0	< 9.9	< 49	< 49	--
SB1 1.5-2.0'	< 0.023	< 0.046	< 0.046	< 0.092	< 0.092	< 4.6	< 9.1	< 46	< 46	--
SB2 0.5-1.0'	< 0.024	< 0.048	< 0.048	< 0.095	< 0.095	< 4.8	72	69	141	< 30
SB2 1.5-2.0'	< 0.023	< 0.046	< 0.046	< 0.092	< 0.092	< 4.6	< 9.7	< 48	< 48	--
SB3 0.5-1.0'	< 0.012	< 0.24	< 0.24	3.8	3.8	120	1,200	660	1,980	--
SB3 2.0-2.5'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	66	150	216	--
SB4 0-1'	< 0.023	< 0.046	< 0.046	< 0.092	< 0.092	< 4.6	< 9.3	< 47	< 47	--
SB5 0.5-1.0'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	100	66	166	--
SB5 2.0-2.5'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	< 9.7	< 49	< 49	--
SB6 0-1'	< 0.024	< 0.048	< 0.048	< 0.096	< 0.096	< 4.8	39	96	135	--
SB7 0-1'	< 0.025	< 0.049	< 0.049	< 0.098	< 0.098	6.3	460	280	746.3	--
SB8 0-1'	< 0.024	< 0.048	< 0.048	< 0.096	< 0.096	< 4.8	< 9.9	< 49	< 49	--
SB9 0-1'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	110	390	400	--
SB10 0-1'	< 0.024	< 0.049	< 0.049	< 0.097	< 0.097	< 4.9	12	50	62	--
SB11 0-1'	< 0.024	< 0.048	< 0.048	< 0.096	< 0.096	< 4.8	< 9.6	< 48	< 48	--
Regulatory Criteria	10	--	--	--	50	--	--	--	1,000	600

BTEX – benzene, ethylbenzene, toluene, and xylenes
mg/kg – milligrams per kilogram
GRO – gasoline range organics
DRO – diesel range organics
MRO – motor oil range organics
TPH – total petroleum hydrocarbons (TPH = GRO+DRO+MRO)
-- – no applicable criteria

Findings and Conclusions

Based on NMOCD remedial action levels and analytical results of soil samples, the following is concluded;

- Constituents of BTEX and total BTEX concentrations in all samples collected from the Site were below NMOCD remedial action levels.
- TPH concentrations exceeded NMOCD remedial action levels in one sample (SB3 0.5-1.0'). TPH impacts are vertically delineated at 2.0 ft.

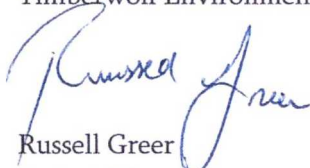
Remedial Action Plan


Timberwolf recommends the following to bring Site soil into compliance;

- Excavate the area of SB3 to a depth of 2.0 ft as shown in Figure 5
- Collect a five-point composite sample to include four sidewalls and one from the base of the excavation. Composite sample to be analyzed for GRO, DRO, and MRO by EPA Method 8015 to confirm that TPH impacted soil has been removed.
- Backfill the excavation with clean fill.

Timberwolf appreciates the opportunity to work for you and Hilcorp. If you have any questions regarding this report, please contact us at (979) 324-2139.

Sincerely,
Timberwolf Environmental, LLC


Russell Greer
Project Manager


Jim Foster
President

Attachments: Figures
Laboratory Report and Chain-of-Custody Documents

Figures

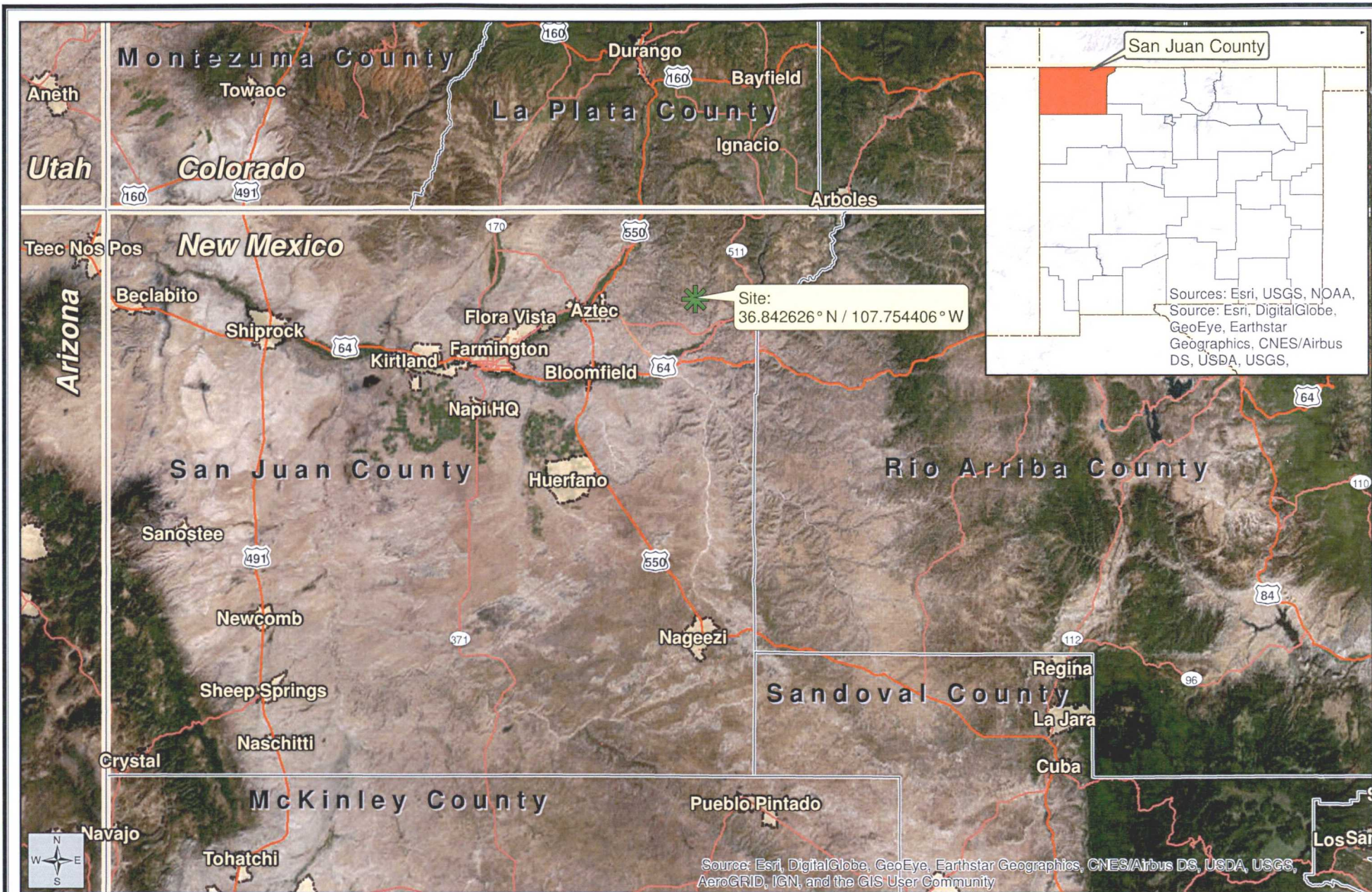


Figure 1
Site Location Map

Collection and Analysis of Soil Samples

Sample Date:
January 25, 2018



Created By:
Kevin Cole
January 30, 2018
TE Project No.: HEC-180007

Turner B Com 1A Release
Hilcorp Energy Company
San Juan County, New Mexico

Datum: NAD83
Imagery Source: ESRI
Vector Source: ESRI and TE

 Site

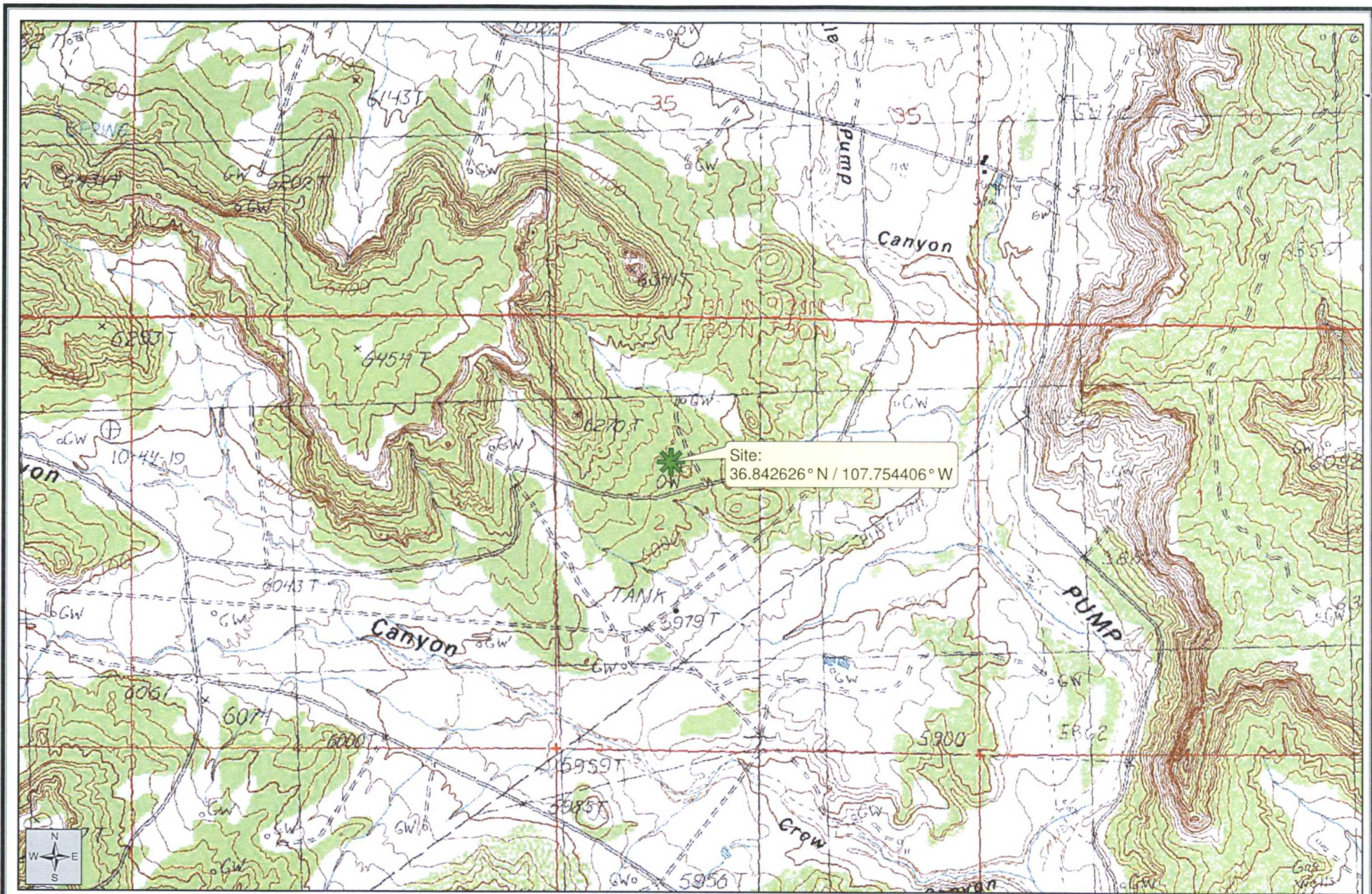


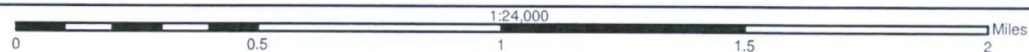
Figure 2
Topographic Map

Collection and Analysis of Soil Samples

Sample Date:
January



Created By:
Kevin Cole
January 30, 2018
TE Project No.: HEC-180007



Turner B Com 1A Release
Hilcorp Energy Company
San Juan County, New Mexico

Datum: NAD83
Imagery Source: USGS
Quad: Turley
Vector Source: TE

 Site



Figure 3
2016 Aerial Map

Collection and Analysis of Soil Samples

Sample Date:
January 25, 2018

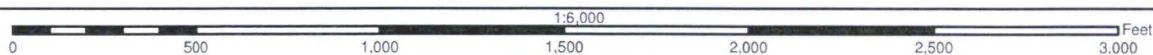


Created By:
Kevin Cole
January 30, 2018
TE Project No.: HEC-180007

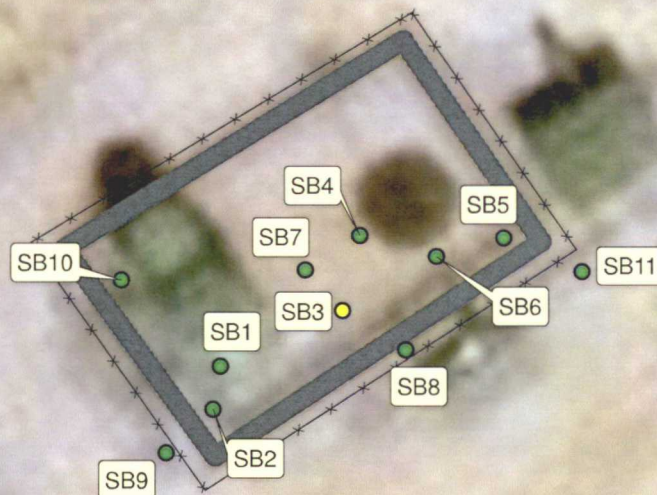
Turner B Com 1A Release
Hilcorp Energy Company
San Juan County, New Mexico

Datum: NAD83
Imagery Source: NAIP
Vector Source: TE

 Site



Sample ID	Volatile Organic Compounds (mg/kg)				Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
	B	T	E	X						
SB1 0.5-1.0'	< 0.025	< 0.05	< 0.05	< 0.099	< 0.099	< 5.0	< 9.9	< 49	< 49	--
SB1 1.5-2.0'	< 0.023	< 0.046	< 0.046	< 0.092	< 0.092	< 4.6	< 9.1	< 46	< 46	--
SB2 0.5-1.0'	< 0.024	< 0.048	< 0.048	< 0.095	< 0.095	< 4.8	72	69	141	< 30
SB2 1.5-2.0'	< 0.023	< 0.046	< 0.046	< 0.092	< 0.092	< 4.6	< 9.7	< 48	< 48	--
SB3 0.5-1.0'	< 0.012	< 0.24	< 0.24	3.8	3.8	120	1,200	660	1,980	--
SB3 2.0-2.5'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	66	150	216	--
SB4 0-1'	< 0.023	< 0.046	< 0.046	< 0.092	< 0.092	< 4.6	< 9.3	< 47	< 47	--
SB5 0.5-1.0'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	100	66	166	--
SB5 2.0-2.5'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	< 9.7	< 49	< 49	--
SB6 0-1'	< 0.024	< 0.048	< 0.048	< 0.096	< 0.096	< 4.8	39	96	135	--
SB7 0-1'	< 0.025	< 0.049	< 0.049	< 0.098	< 0.098	6.3	460	280	746.3	--
SB8 0-1'	< 0.024	< 0.048	< 0.048	< 0.096	< 0.096	< 4.8	< 9.9	< 49	< 49	--
SB9 0-1'	< 0.025	< 0.049	< 0.049	< 0.099	< 0.099	< 4.9	110	390	400	--
SB10 0-1'	< 0.024	< 0.049	< 0.049	< 0.097	< 0.097	< 4.9	12	50	62	--
SB11 0-1'	< 0.024	< 0.048	< 0.048	< 0.096	< 0.096	< 4.8	< 9.6	< 48	< 48	--
Regulatory Criteria	10	--	--	--	50	--	--	--	1,000	600



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 4
Sample Location Map

Collection and Analysis of Soil Samples

Sample Date:
January 25, 2018



Created By:
Kevin Cole
January 30, 2018
TE Project No.: HEC-180007

Turner B Com 1A Release
Hilcorp Energy Company
San Juan County, New Mexico

Datum: NAD83
Imagery Source: ESRI
Vector Source: TE

- Soil Sample (clean)
- Soil Sample (elevated)
- Earthen Berm
- × Fence

0 50 100 150 200 250 Feet

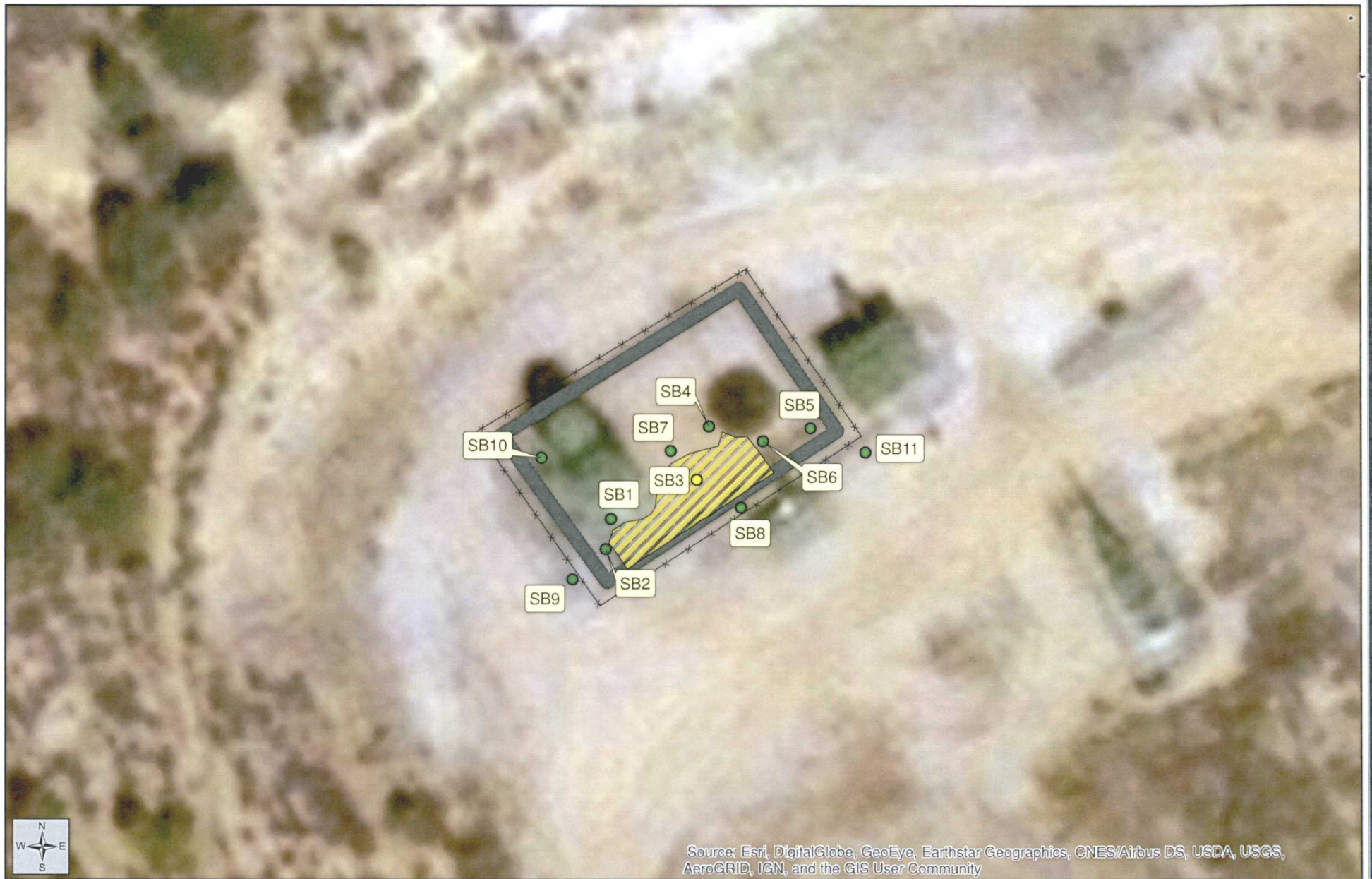


Figure 5
Proposed Excavation Map

Collection and Analysis of Soil Samples

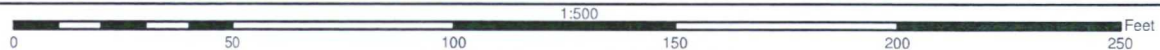
Sample Date:
January 25, 2018



Created By:
Kevin Cole
February 16, 2018
TE Project No.: HEC-180007

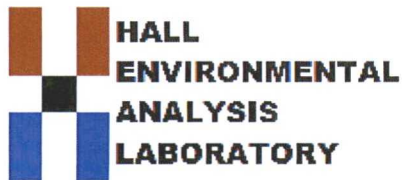
Turner B Com 1A Release
Hilcorp Energy Company
San Juan County, New Mexico

Datum: NAD83
Imagery Source: NAIP
Vector Source: TE



- Soil Sample (clean)
- Soil Sample (elevated)
- Earthen Berm
- x Fence
- Proposed Excavation

Laboratory Report and Chain-of-Custody Documents



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 07, 2018

Jim Foster

Timberwolf Environmental
1920 W Villa Maria Ste 205
Bryan, TX 77807
TEL: (979) 324-2139
FAX

RE: Turner B

OrderNo.: 1801D07

Dear Jim Foster:

Hall Environmental Analysis Laboratory received 16 sample(s) on 1/27/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", with a stylized flourish at the end.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB1 0.5-1.0'

Project: Turner B

Collection Date: 1/25/2018 10:40:00 AM

Lab ID: 1801D07-001

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/30/2018 3:14:57 PM	36237
Surr: BFB	102	70-130		%Rec	1	1/30/2018 3:14:57 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/30/2018 5:49:47 PM	36251
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/30/2018 5:49:47 PM	36251
Surr: DNOP	93.5	70-130		%Rec	1	1/30/2018 5:49:47 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	1/30/2018 3:14:57 PM	36237
Toluene	ND	0.050		mg/Kg	1	1/30/2018 3:14:57 PM	36237
Ethylbenzene	ND	0.050		mg/Kg	1	1/30/2018 3:14:57 PM	36237
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2018 3:14:57 PM	36237
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	1/30/2018 3:14:57 PM	36237
Surr: Toluene-d8	95.6	70-130		%Rec	1	1/30/2018 3:14:57 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB1 1.5-2.0'

Project: Turner B

Collection Date: 1/25/2018 10:50:00 AM

Lab ID: 1801D07-002

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/30/2018 4:23:44 PM	36237
Surr: BFB	106	70-130		%Rec	1	1/30/2018 4:23:44 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	1/30/2018 7:11:54 PM	36251
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/30/2018 7:11:54 PM	36251
Surr: DNOP	94.1	70-130		%Rec	1	1/30/2018 7:11:54 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.023		mg/Kg	1	1/30/2018 4:23:44 PM	36237
Toluene	ND	0.046		mg/Kg	1	1/30/2018 4:23:44 PM	36237
Ethylbenzene	ND	0.046		mg/Kg	1	1/30/2018 4:23:44 PM	36237
Xylenes, Total	ND	0.092		mg/Kg	1	1/30/2018 4:23:44 PM	36237
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	1/30/2018 4:23:44 PM	36237
Surr: Toluene-d8	98.5	70-130		%Rec	1	1/30/2018 4:23:44 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB2 0.5-1.0'

Project: Turner B

Collection Date: 1/25/2018 11:15:00 AM

Lab ID: 1801D07-003

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/6/2018 5:37:58 AM	36356
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/30/2018 5:32:34 PM	36237
Surr: BFB	109	70-130		%Rec	1	1/30/2018 5:32:34 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	72	9.8		mg/Kg	1	1/30/2018 7:39:12 PM	36251
Motor Oil Range Organics (MRO)	69	49		mg/Kg	1	1/30/2018 7:39:12 PM	36251
Surr: DNOP	96.6	70-130		%Rec	1	1/30/2018 7:39:12 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	1/30/2018 5:32:34 PM	36237
Toluene	ND	0.048		mg/Kg	1	1/30/2018 5:32:34 PM	36237
Ethylbenzene	ND	0.048		mg/Kg	1	1/30/2018 5:32:34 PM	36237
Xylenes, Total	ND	0.095		mg/Kg	1	1/30/2018 5:32:34 PM	36237
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	1/30/2018 5:32:34 PM	36237
Surr: Toluene-d8	97.2	70-130		%Rec	1	1/30/2018 5:32:34 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB2 1.5-2.0'

Project: Turner B

Collection Date: 1/25/2018 11:30:00 AM

Lab ID: 1801D07-004

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/30/2018 5:55:34 PM	36237
Surr: BFB	105	70-130		%Rec	1	1/30/2018 5:55:34 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/30/2018 8:06:27 PM	36251
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/30/2018 8:06:27 PM	36251
Surr: DNOP	94.6	70-130		%Rec	1	1/30/2018 8:06:27 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.023		mg/Kg	1	1/30/2018 5:55:34 PM	36237
Toluene	ND	0.046		mg/Kg	1	1/30/2018 5:55:34 PM	36237
Ethylbenzene	ND	0.046		mg/Kg	1	1/30/2018 5:55:34 PM	36237
Xylenes, Total	ND	0.092		mg/Kg	1	1/30/2018 5:55:34 PM	36237
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	1/30/2018 5:55:34 PM	36237
Surr: Toluene-d8	96.9	70-130		%Rec	1	1/30/2018 5:55:34 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB3 0.5-1.0'

Project: Turner B

Collection Date: 1/25/2018 12:00:00 PM

Lab ID: 1801D07-005

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	120	24	D	mg/Kg	5	1/30/2018 6:18:24 PM	36237
Surr: BFB	98.6	70-130	D	%Rec	5	1/30/2018 6:18:24 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	1200	91		mg/Kg	10	1/30/2018 8:33:45 PM	36251
Motor Oil Range Organics (MRO)	660	460		mg/Kg	10	1/30/2018 8:33:45 PM	36251
Surr: DNOP	0	70-130	S	%Rec	10	1/30/2018 8:33:45 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.12	D	mg/Kg	5	1/30/2018 6:18:24 PM	36237
Toluene	ND	0.24	D	mg/Kg	5	1/30/2018 6:18:24 PM	36237
Ethylbenzene	ND	0.24	D	mg/Kg	5	1/30/2018 6:18:24 PM	36237
Xylenes, Total	3.8	0.48	D	mg/Kg	5	1/30/2018 6:18:24 PM	36237
Surr: 4-Bromofluorobenzene	104	70-130	D	%Rec	5	1/30/2018 6:18:24 PM	36237
Surr: Toluene-d8	97.2	70-130	D	%Rec	5	1/30/2018 6:18:24 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB3 2.0-2.5'

Project: Turner B

Collection Date: 1/25/2018 12:10:00 PM

Lab ID: 1801D07-006

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/30/2018 6:41:16 PM	36237
Surr: BFB	106	70-130		%Rec	1	1/30/2018 6:41:16 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	66	9.6		mg/Kg	1	1/31/2018 7:08:46 PM	36251
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	1/31/2018 7:08:46 PM	36251
Surr: DNOP	93.3	70-130		%Rec	1	1/31/2018 7:08:46 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	1/30/2018 6:41:16 PM	36237
Toluene	ND	0.049		mg/Kg	1	1/30/2018 6:41:16 PM	36237
Ethylbenzene	ND	0.049		mg/Kg	1	1/30/2018 6:41:16 PM	36237
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2018 6:41:16 PM	36237
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	1/30/2018 6:41:16 PM	36237
Surr: Toluene-d8	98.1	70-130		%Rec	1	1/30/2018 6:41:16 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB4 0-1'

Project: Turner B

Collection Date: 1/25/2018 12:50:00 PM

Lab ID: 1801D07-008

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/30/2018 7:04:11 PM	36237
Surr: BFB	104	70-130		%Rec	1	1/30/2018 7:04:11 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/30/2018 9:28:22 PM	36251
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/30/2018 9:28:22 PM	36251
Surr: DNOP	91.4	70-130		%Rec	1	1/30/2018 9:28:22 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.023		mg/Kg	1	1/30/2018 7:04:11 PM	36237
Toluene	ND	0.046		mg/Kg	1	1/30/2018 7:04:11 PM	36237
Ethylbenzene	ND	0.046		mg/Kg	1	1/30/2018 7:04:11 PM	36237
Xylenes, Total	ND	0.092		mg/Kg	1	1/30/2018 7:04:11 PM	36237
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	1/30/2018 7:04:11 PM	36237
Surr: Toluene-d8	94.7	70-130		%Rec	1	1/30/2018 7:04:11 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB5 0.5-1.0'

Project: Turner B

Collection Date: 1/25/2018 1:15:00 PM

Lab ID: 1801D07-009

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/30/2018 7:27:11 PM	36237
Surr: BFB	106	70-130		%Rec	1	1/30/2018 7:27:11 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	100	9.5		mg/Kg	1	1/30/2018 10:22:39 PM	36251
Motor Oil Range Organics (MRO)	66	48		mg/Kg	1	1/30/2018 10:22:39 PM	36251
Surr: DNOP	92.4	70-130		%Rec	1	1/30/2018 10:22:39 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	1/30/2018 7:27:11 PM	36237
Toluene	ND	0.049		mg/Kg	1	1/30/2018 7:27:11 PM	36237
Ethylbenzene	ND	0.049		mg/Kg	1	1/30/2018 7:27:11 PM	36237
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2018 7:27:11 PM	36237
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	1/30/2018 7:27:11 PM	36237
Surr: Toluene-d8	99.2	70-130		%Rec	1	1/30/2018 7:27:11 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB5 2.0-2.5'

Project: Turner B

Collection Date: 1/25/2018 1:25:00 PM

Lab ID: 1801D07-010

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/30/2018 7:50:12 PM	36237
Surr: BFB	104	70-130		%Rec	1	1/30/2018 7:50:12 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/31/2018 7:36:16 PM	36251
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/31/2018 7:36:16 PM	36251
Surr: DNOP	92.9	70-130		%Rec	1	1/31/2018 7:36:16 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	1/30/2018 7:50:12 PM	36237
Toluene	ND	0.049		mg/Kg	1	1/30/2018 7:50:12 PM	36237
Ethylbenzene	ND	0.049		mg/Kg	1	1/30/2018 7:50:12 PM	36237
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2018 7:50:12 PM	36237
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	1/30/2018 7:50:12 PM	36237
Surr: Toluene-d8	95.6	70-130		%Rec	1	1/30/2018 7:50:12 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB6 0-1'

Project: Turner B

Collection Date: 1/25/2018 1:35:00 PM

Lab ID: 1801D07-011

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/30/2018 8:13:07 PM	36237
Surr: BFB	106	70-130		%Rec	1	1/30/2018 8:13:07 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	39	8.8		mg/Kg	1	1/31/2018 8:03:45 PM	36251
Motor Oil Range Organics (MRO)	96	44		mg/Kg	1	1/31/2018 8:03:45 PM	36251
Surr: DNOP	93.2	70-130		%Rec	1	1/31/2018 8:03:45 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	1/30/2018 8:13:07 PM	36237
Toluene	ND	0.048		mg/Kg	1	1/30/2018 8:13:07 PM	36237
Ethylbenzene	ND	0.048		mg/Kg	1	1/30/2018 8:13:07 PM	36237
Xylenes, Total	ND	0.096		mg/Kg	1	1/30/2018 8:13:07 PM	36237
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	1/30/2018 8:13:07 PM	36237
Surr: Toluene-d8	94.5	70-130		%Rec	1	1/30/2018 8:13:07 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB7 0-1'

Project: Turner B

Collection Date: 1/25/2018 1:45:00 PM

Lab ID: 1801D07-012

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	6.3	4.9		mg/Kg	1	1/30/2018 8:36:03 PM	36237
Surr: BFB	112	70-130		%Rec	1	1/30/2018 8:36:03 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	460	9.5		mg/Kg	1	1/31/2018 8:31:30 PM	36251
Motor Oil Range Organics (MRO)	280	47		mg/Kg	1	1/31/2018 8:31:30 PM	36251
Surr: DNOP	85.4	70-130		%Rec	1	1/31/2018 8:31:30 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	1/30/2018 8:36:03 PM	36237
Toluene	ND	0.049		mg/Kg	1	1/30/2018 8:36:03 PM	36237
Ethylbenzene	ND	0.049		mg/Kg	1	1/30/2018 8:36:03 PM	36237
Xylenes, Total	ND	0.098		mg/Kg	1	1/30/2018 8:36:03 PM	36237
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	1	1/30/2018 8:36:03 PM	36237
Surr: Toluene-d8	95.9	70-130		%Rec	1	1/30/2018 8:36:03 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB8 0-1'

Project: Turner B

Collection Date: 1/25/2018 1:55:00 PM

Lab ID: 1801D07-013

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/30/2018 8:59:01 PM	36237
Surr: BFB	104	70-130		%Rec	1	1/30/2018 8:59:01 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/31/2018 12:11:59 AM	36251
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/31/2018 12:11:59 AM	36251
Surr: DNOP	97.8	70-130		%Rec	1	1/31/2018 12:11:59 AM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	1/30/2018 8:59:01 PM	36237
Toluene	ND	0.048		mg/Kg	1	1/30/2018 8:59:01 PM	36237
Ethylbenzene	ND	0.048		mg/Kg	1	1/30/2018 8:59:01 PM	36237
Xylenes, Total	ND	0.096		mg/Kg	1	1/30/2018 8:59:01 PM	36237
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	1/30/2018 8:59:01 PM	36237
Surr: Toluene-d8	97.2	70-130		%Rec	1	1/30/2018 8:59:01 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB9 0-1'

Project: Turner B

Collection Date: 1/25/2018 2:05:00 PM

Lab ID: 1801D07-014

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/30/2018 9:22:02 PM	36237
Surr: BFB	107	70-130		%Rec	1	1/30/2018 9:22:02 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	110	9.5		mg/Kg	1	1/31/2018 9:26:07 PM	36251
Motor Oil Range Organics (MRO)	390	48		mg/Kg	1	1/31/2018 9:26:07 PM	36251
Surr: DNOP	102	70-130		%Rec	1	1/31/2018 9:26:07 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	1/30/2018 9:22:02 PM	36237
Toluene	ND	0.049		mg/Kg	1	1/30/2018 9:22:02 PM	36237
Ethylbenzene	ND	0.049		mg/Kg	1	1/30/2018 9:22:02 PM	36237
Xylenes, Total	ND	0.099		mg/Kg	1	1/30/2018 9:22:02 PM	36237
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	1/30/2018 9:22:02 PM	36237
Surr: Toluene-d8	96.3	70-130		%Rec	1	1/30/2018 9:22:02 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB10 0-1'

Project: Turner B

Collection Date: 1/25/2018 2:15:00 PM

Lab ID: 1801D07-015

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/30/2018 9:45:04 PM	36237
Surr: BFB	106	70-130		%Rec	1	1/30/2018 9:45:04 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	12	9.6		mg/Kg	1	1/31/2018 1:07:01 AM	36251
Motor Oil Range Organics (MRO)	50	48		mg/Kg	1	1/31/2018 1:07:01 AM	36251
Surr: DNOP	90.9	70-130		%Rec	1	1/31/2018 1:07:01 AM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	1/30/2018 9:45:04 PM	36237
Toluene	ND	0.049		mg/Kg	1	1/30/2018 9:45:04 PM	36237
Ethylbenzene	ND	0.049		mg/Kg	1	1/30/2018 9:45:04 PM	36237
Xylenes, Total	ND	0.097		mg/Kg	1	1/30/2018 9:45:04 PM	36237
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	1/30/2018 9:45:04 PM	36237
Surr: Toluene-d8	97.3	70-130		%Rec	1	1/30/2018 9:45:04 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1801D07

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Timberwolf Environmental

Client Sample ID: SB11 0-1'

Project: Turner B

Collection Date: 1/25/2018 2:30:00 PM

Lab ID: 1801D07-016

Matrix: SOIL

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/30/2018 10:07:58 PM	36237
Surr: BFB	105	70-130		%Rec	1	1/30/2018 10:07:58 PM	36237
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/31/2018 10:20:39 PM	36251
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/31/2018 10:20:39 PM	36251
Surr: DNOP	91.4	70-130		%Rec	1	1/31/2018 10:20:39 PM	36251
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	1/30/2018 10:07:58 PM	36237
Toluene	ND	0.048		mg/Kg	1	1/30/2018 10:07:58 PM	36237
Ethylbenzene	ND	0.048		mg/Kg	1	1/30/2018 10:07:58 PM	36237
Xylenes, Total	ND	0.096		mg/Kg	1	1/30/2018 10:07:58 PM	36237
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	1/30/2018 10:07:58 PM	36237
Surr: Toluene-d8	96.4	70-130		%Rec	1	1/30/2018 10:07:58 PM	36237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801D07

07-Feb-18

Client: Timberwolf Environmental

Project: Turner B

Sample ID	MB-36356	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	36356	RunNo:	48913					
Prep Date:	2/5/2018	Analysis Date:	2/6/2018	SeqNo:	1573995	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-36356	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	36356	RunNo:	48913					
Prep Date:	2/5/2018	Analysis Date:	2/6/2018	SeqNo:	1573996	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801D07

07-Feb-18

Client: Timberwolf Environmental

Project: Turner B

Sample ID	1801D07-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SB1 0.5-1.0'	Batch ID:	36251	RunNo:	48777					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570253	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.66	0	102	55.8	125			
Surr: DNOP	4.5		4.766		94.7	70	130			

Sample ID	1801D07-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SB1 0.5-1.0'	Batch ID:	36251	RunNo:	48777					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570254	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.35	0	100	55.8	125	1.94	20	
Surr: DNOP	4.4		4.735		93.1	70	130	0	0	

Sample ID	LCS-36251	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	36251	RunNo:	48777					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570269	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.2	70	130			
Surr: DNOP	4.5		5.000		89.9	70	130			

Sample ID	MB-36251	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	36251	RunNo:	48777					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570271	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801D07

07-Feb-18

Client: Timberwolf Environmental

Project: Turner B

Sample ID	1801d07-001ams	SampType:	MS4	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	SB1 0.5-1.0'	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570530	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.024	0.9452	0	99.0	80	120			
Toluene	1.0	0.047	0.9452	0.004093	107	80	120			
Ethylbenzene	1.0	0.047	0.9452	0	110	80	120			
Xylenes, Total	3.0	0.095	2.836	0.02270	107	80	120			
Surr: 4-Bromofluorobenzene	0.44		0.4726		93.6	70	130			
Surr: Toluene-d8	0.46		0.4726		98.2	70	130			

Sample ID	1801d07-001amsd	SampType:	MSD4	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	SB1 0.5-1.0'	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570531	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.024	0.9588	0	99.7	80	120	2.18	0	
Toluene	1.0	0.048	0.9588	0.004093	105	80	120	0.299	0	
Ethylbenzene	1.0	0.048	0.9588	0	107	80	120	1.09	0	
Xylenes, Total	3.1	0.096	2.876	0.02270	106	80	120	1.20	0	
Surr: 4-Bromofluorobenzene	0.44		0.4794		92.2	70	130	0	0	
Surr: Toluene-d8	0.47		0.4794		98.9	70	130	0	0	

Sample ID	Ics-36237	SampType:	LCS4	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	BatchQC	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570550	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	80	120			
Toluene	0.93	0.050	1.000	0	93.0	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.3	80	120			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.0	70	130			
Surr: Toluene-d8	0.47		0.5000		93.7	70	130			

Sample ID	mb-36237	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570552	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801D07

07-Feb-18

Client: Timberwolf Environmental

Project: Turner B

Sample ID	mb-36237	SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	PBS	Batch ID:	36237		RunNo:	48804				
Prep Date:	1/29/2018	Analysis Date:	1/30/2018		SeqNo:	1570552	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.57		0.5000		113	70	130			
Surr: Toluene-d8	0.47		0.5000		93.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801D07

07-Feb-18

Client: Timberwolf Environmental

Project: Turner B

Sample ID	1801d07-002ams	SampType:	MS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	SB1 1.5-2.0'	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570468	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.6	23.06	0	124	64.7	142			
Surr: BFB	430		461.3		93.5	70	130			

Sample ID	1801d07-002amsd	SampType:	MSD	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	SB1 1.5-2.0'	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570469	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.36	0	121	64.7	142	1.34	20	
Surr: BFB	440		467.3		93.2	70	130	0	0	

Sample ID	lcs-36237	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570487	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	70	130			
Surr: BFB	480		500.0		95.2	70	130			

Sample ID	mb-36237	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	36237	RunNo:	48804					
Prep Date:	1/29/2018	Analysis Date:	1/30/2018	SeqNo:	1570489	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	540		500.0		108	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-245-3975 FAX: 505-245-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: TIMBERWOLF ENVIRON

Work Order Number: 1801D07

RptNo: 1

Received By: Erin Melendrez

1/27/2018 10:05:00 AM

Erin Melendrez

Completed By: Dennis Suazo

1/29/2018 9:10:41 AM

Dennis Suazo

Reviewed By: ENM

1/29/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: _____
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? _____
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: _____
(<2 or >12 unless noted)

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	No; Present			

Chain of Custody Record

TAL-4124 (1007)

Client Timberwolf Environmental			Project Manager Jim Foster			Date	Chain of Custody Number 278284
Address			Telephone Number (Area Code)/Fax Number			Lab Number	Page 2 of 2
City	State	Zip Code	Site Contact		Lab Contact	Analysis (Attach list if more space is needed)	

Project Name and Location (State)

Turner B

Contract/Purchase Order/Quote No.

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives						Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
			Air	Soil	Water	Sludge	Urease	NH ₄ Cl	NaOH	HCl	NaOH	ZnAc ₂		
SB8 0-1'	1/25/18	1355											✓	1801D07
SB9 0-1'	1/25/18	1405											✓	013
SB10 0-1'	1/25/18	1415											✓	014
SB11 0-1'	1/25/18	1430											✓	015
End of Chain														

Possible Hazard Identification			Sample Disposal			(A fee may be assessed if samples are retained longer than 1 month)		
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For _____ Months	
Turn Around Time Required			QC Requirements (Specify)					
<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input checked="" type="checkbox"/> 7 Days	<input type="checkbox"/> 14 Days	<input type="checkbox"/> 21 Days	<input type="checkbox"/> Other			
1. Relinquished By			Date			Time		
Jim Foster			1/25/18			1815		
2. Relinquished By			Date			Time		
Christopher Waelke			1/26/18			1832		
3. Relinquished By			Date			Time		
1. Received By			Date			Time		
Christopher Waelke			1/26/18			1322		
2. Received By			Date			Time		
 courier			1/27/18			005		
3. Received By			Date			Time		
Comments								

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Dallas . Ft Worth

Temperature on Receipt $0.8 \pm 0.2 (CF) = 1.0$

Drinking Water? Yes ☐ No ☐

~~TestAmerica~~

THE LEADER IN ENVIRONMENTAL TESTING



560501



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 14, 2018

Jennifer Deal

HILCORP ENERGY

PO Box 4700

Farmington, NM 87499

TEL: (505) 564-0733

FAX

RE: Turner B Com 1A

OrderNo.: 1805406

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/8/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman'.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1805406

Date Reported: 5/14/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: Bottom

Project: Turner B Com 1A

Collection Date: 5/7/2018 11:00:00 AM

Lab ID: 1805406-001

Matrix: SOIL

Received Date: 5/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: Irm
Diesel Range Organics (DRO)	9.8	9.7		mg/Kg	1	5/10/2018 5:07:38 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/10/2018 5:07:38 PM
Surr: DNOP	112	70-130		%Rec	1	5/10/2018 5:07:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/9/2018 4:11:24 PM
Surr: BFB	93.8	15-316		%Rec	1	5/9/2018 4:11:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	5/9/2018 4:11:24 PM
Benzene	ND	0.024		mg/Kg	1	5/9/2018 4:11:24 PM
Toluene	ND	0.048		mg/Kg	1	5/9/2018 4:11:24 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/9/2018 4:11:24 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/9/2018 4:11:24 PM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	5/9/2018 4:11:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805406

14-May-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	MB-38006	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	38006	RunNo:	51178					
Prep Date:	5/9/2018	Analysis Date:	5/10/2018	SeqNo:	1664175	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.3	70	130			

Sample ID	LCS-38006	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	38006	RunNo:	51178					
Prep Date:	5/9/2018	Analysis Date:	5/10/2018	SeqNo:	1664176	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	70	130			
Surr: DNOP	4.5		5.000		89.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805406

14-May-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	MB-37995	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	37995	RunNo:	51141					
Prep Date:	5/8/2018	Analysis Date:	5/9/2018	SeqNo:	1662198	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.7	15	316			

Sample ID	LCS-37995	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	37995	RunNo:	51141					
Prep Date:	5/8/2018	Analysis Date:	5/9/2018	SeqNo:	1662199	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	75.9	131			
Surr: BFB	1000		1000		100	15	316			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805406

14-May-18

Client: HILCORP ENERGY

Project: Turner B Com 1A

Sample ID	MB-37995		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 37995		RunNo: 51141					
Prep Date:	5/8/2018		Analysis Date: 5/9/2018		SeqNo: 1662212		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID	LCS-37995		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 37995		RunNo: 51141					
Prep Date:	5/8/2018		Analysis Date: 5/9/2018		SeqNo: 1662213		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.97	0.10	1.000	0	97.2	70.1	121			
Benzene	0.96	0.025	1.000	0	95.7	77.3	128			
Toluene	0.99	0.050	1.000	0	98.7	79.2	125			
Ethylbenzene	0.98	0.050	1.000	0	98.0	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	100	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	1805406-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	Bottom		Batch ID: 37995		RunNo: 51141					
Prep Date:	5/8/2018		Analysis Date: 5/9/2018		SeqNo: 1662215		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.95	0.095	0.9479	0	99.9	56.9	130			
Benzene	0.95	0.024	0.9479	0	99.9	68.5	133			
Toluene	0.98	0.047	0.9479	0	103	75	130			
Ethylbenzene	0.98	0.047	0.9479	0	104	79.4	128			
Xylenes, Total	3.0	0.095	2.844	0	105	77.3	131			
Surr: 4-Bromofluorobenzene	1.0		0.9479		109	80	120			

Sample ID	1805406-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	Bottom		Batch ID: 37995		RunNo: 51141					
Prep Date:	5/8/2018		Analysis Date: 5/9/2018		SeqNo: 1662216		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.97	0.092	0.9200	0	105	56.9	130	2.34	20	
Benzene	0.96	0.023	0.9200	0	104	68.5	133	0.880	20	
Toluene	0.99	0.046	0.9200	0	108	75	130	1.13	20	
Ethylbenzene	1.0	0.046	0.9200	0	109	79.4	128	1.42	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805406

14-May-18

Client: HILCORP ENERGY

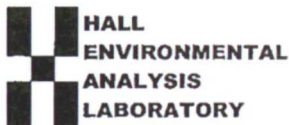
Project: Turner B Com 1A

Sample ID	1805406-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	Bottom	Batch ID:	37995	RunNo:	51141					
Prep Date:	5/8/2018	Analysis Date:	5/9/2018	SeqNo:	1662216	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.1	0.092	2.760	0	111	77.3	131	2.55	20	
Surr: 4-Bromofluorobenzene	0.98		0.9200		106	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY FAR

Work Order Number: 1805406

RcptNo: 1

Received By: Anne Thorne

5/8/2018 7:00:00 AM

Completed By: Isaiah Ortiz

5/8/2018 10:08:25 AM

Reviewed By: ENM

5/8/18

LB: JMO

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH: JMO
(#2 or >12 unless noted)
5/8

Adjusted? _____

Checked by _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record		Turn-Around Time:
Client: <u>HILCORP ENERGY</u>	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush _____	Project Name: <u>TURNER B CON # 1A</u>
Mailing Address: _____	Project #: _____	
Phone #: _____	Project Manager: <u>JENNIFER DEAL</u>	Sampler: <u>KURT</u>
email or Fax#: _____	<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)	
QA/QC Package: _____	Accreditation <input type="checkbox"/> NELAP <input type="checkbox"/> Other _____	
<input type="checkbox"/> EDD (Type) _____	On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Temperature: <u>17</u>

☒ Standard ☐ Rush

Project Name:

TURNER B Com # 1A

Project #:

Project Manager:

JENNIFER NEAL


Sampler: Kues

On Ice: ☒ Yes ☐ No

Sample Temperature: 17

[illegible]

Date: 5-7	Time: 12:45	Relinquished by: [Signature]	Received by: [Signature]	Date: 5/7/18	Time: 1245
Date: 5/7/18	Time: 1814	Relinquished by: [Signature]	Received by: [Signature]	Date: 05/08/18	Time: 0700



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

	X	BTEX + MTBE + TMB's (8021)
		BTEX + MTBE + TPH (Gas only)
	X	TPH 8015B (GRO / DRO / MRO)
		TPH (Method 418.1)
		EDB (Method 504.1)
		PAH's (8310 or 8270 SIMS)
		RCRA 8 Metals
		Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
		8081 Pesticides / 8082 PCB's
		8260B (VOA)
		8270 (Semi-VOA)
		Air Bubbles (Y or N)

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.