Devon Energy Production Co LP Tresnor Mitchell 30 Federal 2

Work Plan

Unit Letter F, Section 30, T23S, R32E Lea County, New Mexico

30-025-32754 1RP-4644

February 6, 2018

NMOCD approves of the vertical delineation completed for 1RP-4644. Horizontal delineation will be completed along with remediation. See email correspondence for stipulations.



Prepared for:

Devon Energy Production Co., LP 6488 Seven Rivers Hwy Artesia, New Mexico 88211

By:

Safety & Environmental Solutions, Inc. 703 East Clinton Street Hobbs, New Mexico 88240

TABLE OF CONTENTS

I.	COMPANY CONTACTS	1
II.	BACKGROUND	1
III.	SURFACE AND GROUND WATER	1
IV.	CHARACTERIZATION	1
V.	WORK PERFORMED	2
VI.	ACTION PLAN	2
VII.	FIGURES & APPENDICES	3
F	igure 1 – Vicinity Map	5
F	igure 2 – Site Plan	6
A	ppendix A – C-141	9
A	ppendix B – Groundwater	1 <u>0</u>
A	ppendix C – Analytical Results	1 <u>1</u>
A	ppenaix D – Photo Documentation	1 <u>2</u>

I. Company Contacts

Representative	Company	Telephone	E-mail
Mike Shoemaker	Devon Energy Prod.	575-746-5566	Mike.Shoemaker@dvn.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Devon Energy to perform a site assessment on the Tresnor Mitchell 30 Federal 2, concerning a 10 bbl. release of oil and produced water. This site is situated in Lea County, Section 30, Township 23S, and Range 32E.

According to the C-141: Approximately nine (9) BBLS of produced water and one (1) BBL of oil was released from a two (2) inch poly transition line that split due to high line pressure caused by paraffin blockage. The released nine (9) BBLS of produced water and one (1) BBL of oil flowed in an Easterly direction away from the well. The approximate size of the release was fifty (50) feet wide by twenty (20) feet in length. A vacuum truck recovered seven and a half (7.50) BBLS of produced water and a half (0.50) BBL of oil. Safety & Environmental Solutions was contacted for remediation.

III. Surface and Ground Water

The New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 584' bgs.

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:									
(Vertical distance from contaminants to	Less than 50 feet	20 points							
seasonal high water elevation of	50 feet to 99 feet	10 points							
groundwater)	>100 feet	0 points	Х						
Wellhead Protection Area:									
(Less than 200 feet from a private domestic	Yes	20 points							
water source; or less than 1000 feet from all	No	0 points	Х						
other water sources)									
Distance to Surface Water:									
(Horizontal distance to perennial lakes,	Less than 200 feet	20 points							
ponds, rivers, streams, creeks, irrigation	200 feet to 1000 feet	10 points							
canals and ditches)	>1000 feet	0 points	Χ						
RANKING SCORE (TOTAL POINTS)			0						

V. Work Performed

On December 5, 2017, SESI personnel was onsite at the Devon Tresnor Mitchell for the site assessment and delineation. The site area was assessed to determine where the sample points were to be installed. Four auger holes were installed and field tested for Chlorides. The release area and sample points were mapped using the Juno 3B and site photos of the release area were taken. All soil samples were properly preserved.

On December 18, 2017, SESI personnel was onsite with TexMex Backhoe personnel at the Devon Tresnor Mitchell to install test trenches to determine vertical extent of contamination. Test trenches were installed and soil samples were obtained and field tested for Chlorides. All trenches were back filled. The sample points were mapped using the Juno 3B and site photos of the release area were taken. All soil samples were properly packaged, preserved and transported to Hall Environmental Laboratories of Albuquerque, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), BTEX, and Chlorides (Method 300). The results are recapped in the following table:

Soil Sample Results: Hall Environmental Laboratories 1-10-18											
SAMPLE ID	Benzene	Toluene	Ethyl	Total	Total	TPH	TPH	Chlorides			
			benzene	Xylenes	BTEX	GRO	DRO				
TT-1 3ft	ND	ND	ND	ND	ND	ND	ND	170			
TT-1 4ft	ND	ND	ND	ND	ND	ND	ND	140			
TT-1 5ft	ND	ND	ND	ND	ND	ND	ND	150			
TT-1 11ft	ND	ND	ND	ND	ND	ND	ND	92			
TT-2 2ft	ND	ND	ND	ND	ND	ND	ND	89			
TT-2 3ft	ND	ND	ND	ND	ND	ND	ND	ND			
TT-2 10ft	ND	ND	ND	ND	ND	ND	ND	ND			
TT-3 2ft	ND	ND	ND	ND	ND	ND	ND	91			
TT-3 3ft	ND	ND	ND	ND	ND	ND	ND	ND			
TT-3 10ft	ND	ND	ND	ND	ND	ND	ND	ND			

VI. Action Plan

The area of the impacted soil will be excavated to a depth where the Chloride concentration is less than 500 ppm. The excavation will be backfilled with uncontaminated soil and returned to natural grade and all contaminated soil will be transported to an NMOCD approved facility. The site will be reseeded with BLM #2-LPC seed mixture and applied at 5lbs/ acre to the entire affected area off the location. The seed mix will be purchased commercially and will be a certified seed mix. There will be no primary or secondary noxious weeds in this mixture. In the event that noxious weeds occur, chemical treatments, along with follow-ups and monitoring will take place. Straw will be scattered over the seed which is intended to hold the seed in place to allow growth to occur. The site will be reseeded if growth is not observed within 60 days. When adequate growth has been observed, a report of such growth will be filed with the New Mexico State Land Office. Upon completion of this work plan, all necessary documentation and reports will be completed and distributed to the appropriate regulatory agencies.

VII. Figures & Appendices

Figure 1 – Vicinity Map Figure 2 – Site Plan Appendix A – C-141 Appendix B – Groundwater Appendix C – Analytical Results Appendix D – Photo Documentation

Figure 1 Vicinity Map



Figure 2 Site Plan



Appendix A C-141

Oil Conservation Division 1220 South St. Francis Dr.

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

1220 S. St. Franc	220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505											
Release Notification and Corrective Action												
	OPERATOR Initial Report \Box Final Report											
Name of Co	mpany D	evon Energy	v Product	ion Company	(Contact Wesley Rvan. Production Foreman						
Address 64	88 Seven l	Rivers Hwy	Artesia, I	NM 88210	,	Telephone No. 575-390-5436						
Facility Nat	me Tresno	or Mitchell 3	0 Federal	2]	Facility Ty	pe Oil					
Surface Or	mon Eada	ro1		Minoral	Junan	Fadaral			A DI No	20 025 20	0754	
Surface Ow	Ther read	al		willerary	Jwner	reuerai			AFINO	50-025-52	2734	
			1	LOCA	TION	N OF REI	LEASE					
Unit Letter F	Section 30	Township 23S	Range 32E	Feet from the 2310	North/	South Line North	Feet from the 2310	East/V	West Line West	County Lea		
		La	titude: N	32.2763062		I	Longitude: W	-103.71	54846			
				NAT	URE	OF REL	EASE					
Type of Rele	ase Produc	ed water (PW) & Oil			Volume of & 1 BBL (Release 9 BBLS Dil	PW	Volume H	Recovered 7 Oil	7.50 BBLS PW &	
Source of Re	lease					Date and I	Hour of Occurre	nce	Date and 3/5/2017	Hour of Di	scovery	
Was Immedi	ate Notice	Given?				If YES. To	Whom?		5/5/2017	@ 0.57am		
		\boxtimes	Yes] No 🗌 Not Re	equired	BLM-Shel OCD-Olivi	ly Tucker a Yu					
By Whom? V	Wesley Rya	n, Production	Foreman			Date and l	Hour					
						BLM-3/6/2017 @ 7:30am OCD-3/6/2017 @ 7:45am						
Was a Water	course Re	ached?				If YES. Vo	olume Impacting	the Wa	atercourse			
			Yes 🖂	No		N/A	DECEN					
If a Waterco	urse was I	mpacted, Des	scribe Ful	ly.*			RECEIV	EU				
Describe Cau	use of Prob	olem and Ren	nedial Act	ion Taken.*		(By Olivia	YUč	at 8:27	am, wa	ar 15, 2017	
A 2 inch poly	transition	line became c	logged wit	h paraffin the blo	ckage ca	aused the line	to pressure up re	sulting	in the 2 incl	n poly transi	tion line splitting.	
The split in the	ne 2 inch po	oly transition l	ine caused	l a release of 9 BE	BLS of p	roduced wate	er and 1 BBL of o	il. The v	well was sh	ut down to p	prevent further	
release. The c	lamaged po	ortion of the 2	men pory	transition line wa	s replace	eu.						
Describe Are	ea Affected	and Cleanu	p Action 7	aken.*								
Approximate	ly 9 BBLS	of produced w	vater and 1	BBL of oil was 1	released	from a 2 inch	poly transition li	ine that	split due to	high line pr	essure caused by	
the release wa	age. The reas 50 feet w	vide by 20 fee	t in length	A vacuum truck	was dist	on nowed in patched and r	an Easterly direct ecovered 7.50 BB	ion awa BLS of r	ay from the	well. The aj iter and a 0.	50 BBL of oil. A	
remediation c	contractor w	vill be contact	ed to com	plete remediation	activitie	s.		20 01 p				
T1 1 /	<u> </u>	· · · · ·			1 4 4 41	1 ()		1 4	1.1			
I hereby certil	fy that the i	are required t	o report ar	a strue and comp	lete to the	tifications a	knowledge and u	ndersta	nd that purs ions for rele	uant to NM eases which	OCD rules and may endanger	
public health	or the envir	ronment. The	acceptance	e of a C-141 repo	ort by the	e NMOCD m	arked as "Final R	eport" d	loes not reli	eve the oper	rator of liability	
should their o	perations h	ave failed to a	adequately	investigate and r	emediate	e contaminati	on that pose a thr	eat to g	round water	, surface wa	ter, human health	
or the enviror	ment. In a	ddition, NMC	CD accep	tance of a C-141	report de	bes not reliev	e the operator of	respons	ibility for co	ompliance w	with any other	
icuciai, state,	01 10001 10	ws and/of regt					OIL CON	SERV	ATION	DIVISIO)N	
Signature: So	arah Go	illegos-Ti	rouble	field			<u>011 001 (</u>		<u></u>			
-		0							Ć	M		
Printed Name	: Sarah Ga	llegos-Troubl	efield			Approved by	Environmental S	pecialis	t:			
Title: Field A	dmin Supp	ort				Approval Dat	e: 3/15/2017		Expiration 1	Date:		
E-mail Addre	ss: Sarah C	allegos-Troul	blefield@a	lvn.com		Conditions of	Approval:					
					—	see at	tached direc	tive	7	Attached		
Date: 3/8/201	7	Pho	one: 575.7	48.1864								
Attach Addit	tional Shee	ets If Necess	ary		r			0740	0744		707400757	
						1 KP-46 4	4 INOY1/	0743	0714		101430151	

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _3/13/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-_4644__ has been assigned. Please refer to this case number in all future correspondence.

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete <u>division-approved corrective action</u> for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _4/15/2017__. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

• Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

• Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

• Nominal detection limits for field and laboratory analyses must be provided.

• Composite sampling is not generally allowed.

• Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us



Appendix B Groundwater



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced O=orphaned, C=the file is closed)	d, (quar (quar	ters a ters a	are s	1=N\ smal	N 2=N lest to	IE 3=SW largest)	/ 4=SE) (NAD8	3 UTM in meters)		(In feet))
POD Number	POD Sub- Code basin (County	Q Q 64 10	Q 64	Sec	Tws	Rng	х	Y	Depth Well	Depth Water	Water Column
<u>C 02216</u>	CUB	LE	22	4	21	23S	32E	625035	3573261* 🌍	585	400	185
<u>C 02349</u>		ED	2	3	03	23S	32E	625678	3578004* 🌍	525		
C 03529 POD1	С	LE	24	3	29	23S	32E	622651	3571212 🌍	550		
C 03749 POD1	CUB	LE	34	4	07	23S	32E	616974	3575662 🌍	865	639	226
C 03851 POD1	CUB	LE	33	4	20	23S	32E	622880	3572660 🌍	1392	713	679
									Average Depth to	Water:	584 fe	et
									Minimum	n Depth:	400 fe	et
									Maximum	Depth:	713 fe	et
Record Count: 5												

PLSS Search:

Township: 23S Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Appendix C – Analytical Results



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

January 10, 2018

Bob Allen Safety & Environmental Solutions 703 E Clinton Hobbs, NM 88240 TEL: (575) 397-0510 FAX (575) 393-4388

RE: Devon Thesnor Mitchell 30-2

OrderNo.: 1712D95

Dear Bob Allen:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/22/2017 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 <u>www.hallenvironmental.com</u> 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,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Devon Thesnor Mitchell 30-2

Client Sample ID: TT-1 4ft Collection Date: 12/18/2017 10:25:00 AM n.

Lab ID: 1712D95-001	Matrix:	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: MRA			
Chloride	140	30	mg/Kg	20	1/8/2018 7:08:37 PM	35904			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/29/2017 1:04:36 PM	A 35725			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/29/2017 1:04:36 PM	/ 35725			
Surr: DNOP	88.4	70-130	%Rec	1	12/29/2017 1:04:36 PM	/ 35725			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/28/2017 7:44:33 PM	/ 35711			
Surr: BFB	80.2	15-316	%Rec	1	12/28/2017 7:44:33 PM	/ 35711			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.092	mg/Kg	1	12/28/2017 7:44:33 PM	/ 35711			
Benzene	ND	0.023	mg/Kg	1	12/28/2017 7:44:33 PM	/ 35711			
Toluene	ND	0.046	mg/Kg	1	12/28/2017 7:44:33 PM	/ 35711			
Ethylbenzene	ND	0.046	mg/Kg	1	12/28/2017 7:44:33 PM	/ 35711			
Xylenes, Total	ND	0.092	mg/Kg	1	12/28/2017 7:44:33 PM	/ 35711			
Surr: 4-Bromofluorobenzene	93.0	80-120	%Rec	1	12/28/2017 7:44:33 PM	A 35711			

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

- * Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 16 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project:

Devon Thesnor Mitchell 30-2

Client Sample ID: TT-1 5ft Collection Date: 12/18/2017 10:55:00 AM Received Date: 12/22/2017 9:40:00 AM

Lab ID: 1712D95-002	Matrix:	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: MRA			
Chloride	150	30	mg/Kg	20	1/8/2018 7:21:02 PM	35904			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/29/2017 1:32:24 PM	/ 35725			
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/29/2017 1:32:24 PM	/ 35725			
Surr: DNOP	81.0	70-130	%Rec	1	12/29/2017 1:32:24 PM	/ 35725			
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/28/2017 8:07:59 PM	/ 35711			
Surr: BFB	78.9	15-316	%Rec	1	12/28/2017 8:07:59 PN	/ 35711			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	12/28/2017 8:07:59 PM	/ 35711			
Benzene	ND	0.024	mg/Kg	1	12/28/2017 8:07:59 PM	/ 35711			
Toluene	ND	0.048	mg/Kg	1	12/28/2017 8:07:59 PM	/ 35711			
Ethylbenzene	ND	0.048	mg/Kg	1	12/28/2017 8:07:59 PN	/ 35711			
Xylenes, Total	ND	0.095	mg/Kg	1	12/28/2017 8:07:59 PN	/ 35711			
Surr: 4-Bromofluorobenzene	92.2	80-120	%Rec	1	12/28/2017 8:07:59 PM	/ 35711			

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

- * 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 Quanitative 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 Page 2 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Devon Thesnor Mitchell 30-2

Client Sample ID: TT-1 11ft Collection Date: 12/18/2017 12:15:00 PM Received Date: 12/22/2017 9:40:00 AM

Lab ID: 1712D95-003	Matrix:	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: MRA			
Chloride	92	30	mg/Kg	20	1/8/2018 7:33:26 PM	35904			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/29/2017 2:00:14 PM	A 35725			
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	12/29/2017 2:00:14 PM	/ 35725			
Surr: DNOP	77.4	70-130	%Rec	1	12/29/2017 2:00:14 PM	/ 35725			
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/28/2017 8:31:11 PM	/ 35711			
Surr: BFB	77.4	15-316	%Rec	1	12/28/2017 8:31:11 PM	/ 35711			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	12/28/2017 8:31:11 PM	/ 35711			
Benzene	ND	0.025	mg/Kg	1	12/28/2017 8:31:11 PM	/ 35711			
Toluene	ND	0.049	mg/Kg	1	12/28/2017 8:31:11 PM	/ 35711			
Ethylbenzene	ND	0.049	mg/Kg	1	12/28/2017 8:31:11 PM	/ 35711			
Xylenes, Total	ND	0.099	mg/Kg	1	12/28/2017 8:31:11 PM	/ 35711			
Surr: 4-Bromofluorobenzene	91.1	80-120	%Rec	1	12/28/2017 8:31:11 PM	A 35711			

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

- * 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 Quanitative 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 Page 3 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Devon Thesnor Mitchell 30-2

Client Sample ID: TT-2 2ft Collection Date: 12/18/2017 12:55:00 PM Pageived Date: 12/22/2017 9:40:00 AM

Lab ID: 1712D95-004	Matrix:	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: MRA			
Chloride	89	30	mg/Kg	20	1/9/2018 3:11:00 PM	35914			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/29/2017 2:28:23 PM	/ 35725			
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/29/2017 2:28:23 PM	/ 35725			
Surr: DNOP	72.6	70-130	%Rec	1	12/29/2017 2:28:23 PM	/ 35725			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/28/2017 8:54:35 PM	/ 35711			
Surr: BFB	79.2	15-316	%Rec	1	12/28/2017 8:54:35 PM	/ 35711			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.092	mg/Kg	1	12/28/2017 8:54:35 PM	/ 35711			
Benzene	ND	0.023	mg/Kg	1	12/28/2017 8:54:35 PM	/ 35711			
Toluene	ND	0.046	mg/Kg	1	12/28/2017 8:54:35 PM	/ 35711			
Ethylbenzene	ND	0.046	mg/Kg	1	12/28/2017 8:54:35 PM	/ 35711			
Xylenes, Total	ND	0.092	mg/Kg	1	12/28/2017 8:54:35 PM	/ 35711			
Surr: 4-Bromofluorobenzene	94.5	80-120	%Rec	1	12/28/2017 8:54:35 PM	/ 35711			

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

- * 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 Quanitative 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 Page 4 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions Client Sample ID: TT-2 3ft **Project:** Devon Thesnor Mitchell 30-2 Collection Date: 12/18/2017 1:15:00 PM Lab ID: 1712D95-005 Matrix: SOIL Received Date: 12/22/2017 9:40:00 AM Analyses Result **PQL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 30 mg/Kg 1/9/2018 4:13:04 PM 35914 20 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: TOM **Diesel Range Organics (DRO)** ND mg/Kg 12/29/2017 2:56:42 PM 35725 9.5 1 mg/Kg Motor Oil Range Organics (MRO) ND 47 1 12/29/2017 2:56:42 PM 35725 Surr: DNOP 71.4 70-130 %Rec 1 12/29/2017 2:56:42 PM 35725 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.7 mg/Kg 1 12/28/2017 9:18:01 PM 35711 Surr: BFB 80.9 12/28/2017 9:18:01 PM 35711 15-316 %Rec 1 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Methyl tert-butyl ether (MTBE) ND 0.095 mg/Kg 1 12/28/2017 9:18:01 PM 35711 Benzene ND mg/Kg 12/28/2017 9:18:01 PM 35711 0.024 1

ND 0.047 mg/Kg 1 12/28/2017 9:18:01 PM 35711 Ethylbenzene ND 0.047 mg/Kg 1 12/28/2017 9:18:01 PM 35711 Xylenes, Total ND 0.095 mg/Kg 12/28/2017 9:18:01 PM 35711 1 Surr: 4-Bromofluorobenzene 93.5 80-120 %Rec 1 12/28/2017 9:18:01 PM 35711

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

Oualifiers:

*

Toluene

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 16 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Devon Thesnor Mitchell 30-2

Client Sample ID: TT-2 10ft Collection Date: 12/18/2017 1:55:00 PM n.

Lab ID: 1712D95-006	Matrix:	SOIL	Received 1	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: MRA			
Chloride	ND	30	mg/Kg	20	1/9/2018 4:25:28 PM	35914			
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	5			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/29/2017 3:24:40 PM	/ 35725			
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/29/2017 3:24:40 PM	/ 35725			
Surr: DNOP	73.7	70-130	%Rec	1	12/29/2017 3:24:40 PN	/ 35725			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	12/28/2017 9:41:23 PM	/ 35711			
Surr: BFB	75.8	15-316	%Rec	1	12/28/2017 9:41:23 PN	/ 35711			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	12/28/2017 9:41:23 PM	/ 35711			
Benzene	ND	0.024	mg/Kg	1	12/28/2017 9:41:23 PM	/ 35711			
Toluene	ND	0.047	mg/Kg	1	12/28/2017 9:41:23 PM	/ 35711			
Ethylbenzene	ND	0.047	mg/Kg	1	12/28/2017 9:41:23 PM	/ 35711			
Xylenes, Total	ND	0.095	mg/Kg	1	12/28/2017 9:41:23 PM	/ 35711			
Surr: 4-Bromofluorobenzene	88.8	80-120	%Rec	1	12/28/2017 9:41:23 PM	/ 35711			

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

- * Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 16 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Devon Thesnor Mitchell 30-2

Client Sample ID: TT-3 2ft Collection Date: 12/18/2017 2:10:00 PM Received Date: 12/22/2017 9:40:00 AM

Lab ID: 1712D95-007	Matrix: S	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	st: MRA			
Chloride	91	30	mg/Kg	20	1/9/2018 4:37:53 PM	35914			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	st: TOM			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/29/2017 3:11:32 PI	M 35725			
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/29/2017 3:11:32 PM	M 35725			
Surr: DNOP	94.4	70-130	%Rec	1	12/29/2017 3:11:32 P	M 35725			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB			
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/28/2017 10:04:41 F	PM 35711			
Surr: BFB	78.8	15-316	%Rec	1	12/28/2017 10:04:41 F	PM 35711			
EPA METHOD 8021B: VOLATILES					Analys	st: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.092	mg/Kg	1	12/28/2017 10:04:41 F	PM 35711			
Benzene	ND	0.023	mg/Kg	1	12/28/2017 10:04:41 F	PM 35711			
Toluene	ND	0.046	mg/Kg	1	12/28/2017 10:04:41 F	PM 35711			
Ethylbenzene	ND	0.046	mg/Kg	1	12/28/2017 10:04:41 F	PM 35711			
Xylenes, Total	ND	0.092	mg/Kg	1	12/28/2017 10:04:41 F	PM 35711			
Surr: 4-Bromofluorobenzene	89.8	80-120	%Rec	1	12/28/2017 10:04:41 F	PM 35711			

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

- * 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 Quanitative 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 Page 7 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions Client Sample ID: TT-3 3ft **Project:** Devon Thesnor Mitchell 30-2 Collection Date: 12/18/2017 2:25:00 PM Lab ID: 1712D95-008 Matrix: SOIL Received Date: 12/22/2017 9:40:00 AM Analyses Result **PQL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 30 mg/Kg 1/9/2018 4:50:18 PM 35914 20 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: TOM **Diesel Range Organics (DRO)** ND mg/Kg 12/29/2017 3:36:03 PM 35725 9.3 1 mg/Kg Motor Oil Range Organics (MRO) ND 46 1 12/29/2017 3:36:03 PM 35725 Surr: DNOP 94.8 70-130 %Rec 1 12/29/2017 3:36:03 PM 35725 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.7 mg/Kg 1 12/28/2017 10:28:00 PM 35711 Surr: BFB 76.0 12/28/2017 10:28:00 PM 35711 15-316 %Rec 1 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Methyl tert-butyl ether (MTBE) ND 0.093 mg/Kg 1 12/28/2017 10:28:00 PM 35711 Benzene ND mg/Kg 12/28/2017 10:28:00 PM 35711 0.023 1 Toluene ND 0.047 mg/Kg 1 12/28/2017 10:28:00 PM 35711 Ethylbenzene ND 0.047 mg/Kg 1 12/28/2017 10:28:00 PM 35711 Xylenes, Total ND 0.093 mg/Kg 12/28/2017 10:28:00 PM 35711 1

80-120

%Rec

1

12/28/2017 10:28:00 PM 35711

90.5

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

Qualifiers:

*

Surr: 4-Bromofluorobenzene

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

Value exceeds Maximum Contaminant Level.

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Devon Thesnor Mitchell 30-2

Client Sample ID: TT-3 10ft Collection Date: 12/18/2017 3:20:00 PM

Lab ID: 1712D95-009	Matrix:	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	st: MRA			
Chloride	ND	30	mg/Kg	20	1/9/2018 5:02:43 PM	35914			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	;			Analys	st: TOM			
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/29/2017 4:00:33 PI	M 35725			
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/29/2017 4:00:33 PI	M 35725			
Surr: DNOP	97.0	70-130	%Rec	1	12/29/2017 4:00:33 PM	M 35725			
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	st: NSB			
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/28/2017 10:51:20 F	PM 35711			
Surr: BFB	79.1	15-316	%Rec	1	12/28/2017 10:51:20 F	PM 35711			
EPA METHOD 8021B: VOLATILES					Analys	st: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	12/28/2017 10:51:20 F	PM 35711			
Benzene	ND	0.024	mg/Kg	1	12/28/2017 10:51:20 F	PM 35711			
Toluene	ND	0.048	mg/Kg	1	12/28/2017 10:51:20 F	PM 35711			
Ethylbenzene	ND	0.048	mg/Kg	1	12/28/2017 10:51:20 F	PM 35711			
Xylenes, Total	ND	0.096	mg/Kg	1	12/28/2017 10:51:20 F	PM 35711			
Surr: 4-Bromofluorobenzene	91.7	80-120	%Rec	1	12/28/2017 10:51:20 F	PM 35711			

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

- * 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 Quanitative 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 Page 9 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project:

Devon Thesnor Mitchell 30-2

Client Sample ID: TT-1 3ft Collection Date: 12/18/2017 10:00:00 AM Received Date: 12/22/2017 9:40:00 AM

Lab ID: 1712D95-010	Matrix:	SOIL	Received	Received Date: 12/22/2017 9:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: MRA			
Chloride	170	30	mg/Kg	20	1/9/2018 5:15:08 PM	35914			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/29/2017 9:02:02 AM	/ 35758			
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	12/29/2017 9:02:02 AM	/ 35758			
Surr: DNOP	86.4	70-130	%Rec	1	12/29/2017 9:02:02 AM	1 35758			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/29/2017 11:58:16 A	M 35757			
Surr: BFB	80.0	15-316	%Rec	1	12/29/2017 11:58:16 A	M 35757			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.098	mg/Kg	1	12/29/2017 11:58:16 A	M 35757			
Benzene	ND	0.024	mg/Kg	1	12/29/2017 11:58:16 A	M 35757			
Toluene	ND	0.049	mg/Kg	1	12/29/2017 11:58:16 A	M 35757			
Ethylbenzene	ND	0.049	mg/Kg	1	12/29/2017 11:58:16 A	M 35757			
Xylenes, Total	ND	0.098	mg/Kg	1	12/29/2017 11:58:16 A	M 35757			
Surr: 4-Bromofluorobenzene	91.7	80-120	%Rec	1	12/29/2017 11:58:16 A	M 35757			

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

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- D Sample Difficed Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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 Page 10 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#:	1712D95
	10-Jan-18

Client: Project:	Safety Devon	& Environmental Solutions Thesnor Mitchell 30-2								
Sample ID Client ID:	MB-35904 PBS	SampType: mblk Batch ID: 35904	TestCode: EPA Method RunNo: 48276	300.0: Anions						
Prep Date:	1/8/2018	Analysis Date: 1/8/2018	SeqNo: 1551900	Units: mg/Kg						
Analyte Chloride		Result PQL SPK value ND 1.5	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Sample ID	LCS-35904	S-35904 SampType: Ics TestCode: EPA Method 300.0: Anions								
Client ID:	LCSS	Batch ID: 35904	RunNo: 48276							
Prep Date:	1/8/2018	Analysis Date: 1/8/2018	SeqNo: 1551901	Units: mg/Kg						
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Chloride		15 1.5 15.00	0 98.0 90	110						
Sample ID	MB-35914	SampType: mblk	TestCode: EPA Method	300.0: Anions						
Client ID:	PBS	Batch ID: 35914	RunNo: 48339							
Prep Date:	1/8/2018	Analysis Date: 1/9/2018	SeqNo: 1552593	Units: mg/Kg						
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Chloride		ND 1.5								
Sample ID	LCS-35914	SampType: Ics	TestCode: EPA Method	300.0: Anions						
Client ID:	LCSS	Batch ID: 35914	RunNo: 48339							
Prep Date:	1/8/2018	Analysis Date: 1/9/2018	SeqNo: 1552594	Units: mg/Kg						
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual					
Chloride		15 1.5 15.00	0 97.7 90	110						

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 Quanitative 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

Page 11 of 16

WO#:	1712D95

Client: Project:	Safety & I Devon Th	Environm esnor Mi	ental S tchell 3	olutions 0-2							
Sample ID	LCS-35725	Samp	Type: LO	cs	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	LCSS	Batc	h ID: 35	5725	F	RunNo: 48	8095				
Prep Date:	12/27/2017	Analysis E	Date: 1	2/29/2017	S	SeqNo: 1	542186	Units: mg/k	ίg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	47	10	50.00	0	93.7	73.2	114			
Surr: DNOP		4.3		5.000		86.4	70	130			
Sample ID	MB-35725	Samp	Гуре: М	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batc	h ID: 35	5725	F	RunNo: 48	8095				
Prep Date:	12/27/2017	Analysis D	Date: 1	2/29/2017	5	SeqNo: 1	542187	Units: mg/K	ζg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	ND	10								
Motor Oil Rang	e Organics (MRO)	ND	50								
Surr: DNOP		8.6		10.00		86.1	70	130			
Sample ID	1712D95-010AMS	SampT	Гуре: М	s	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	TT-1 3ft	Batc	h ID: 35	5758	F	RunNo: 48	8061				
Prep Date:	12/28/2017	Analysis D	Date: 1	2/29/2017	5	SeqNo: 1	542270	Units: mg/K	ζg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	40	10	49.75	0	79.9	55.8	125			
Surr: DNOP		3.7		4.975		75.1	70	130			
Sample ID	1712D95-010AMS	D Samp1	Гуре: М	SD	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	TT-1 3ft	Batc	h ID: 35	5758	F	RunNo: 48	8061				
Prep Date:	12/28/2017	Analysis E	Date: 1	2/29/2017	S	SeqNo: 1	542271	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	44	9.7	48.64	0	90.9	55.8	125	10.6	20	
Surr: DNOP		4.0		4.864		82.9	70	130	0	0	
Sample ID	LCS-35758	Samp	Гуре: Ц	cs	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	LCSS	Batc	h ID: 35	5758	F	RunNo: 48	8061				
Prep Date:	12/28/2017	Analysis E	Date: 1	2/29/2017	5	SeqNo: 1	542276	Units: mg/k	íg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	44	10	50.00	0	87.3	73.2	114			
Surr: DNOP		4.1		5.000		82.3	70	130			

- * 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 Quanitative 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
- Page 12 of 16

WO#:	1712D95
	10. Ian. 18

Client:	Safety & Environmental Solutions										
Project:	Devon T	hesnor Mite	chell 30)-2							
Sample ID	MB-35758 SampType: MBLK				TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	PBS	Batch	ID: 35	758	R	unNo: 4	8061				
Prep Date:	12/28/2017	Analysis D	ate: 12	2/29/2017	S	eqNo: 1	542278	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	ND	10								
Motor Oil Rang	e Organics (MRO)	ND	50								
Surr: DNOP		8.3		10.00		83.4	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 Quanitative 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

Page 13 of 16

WO#:	1712D95
	10-Jan-18

Client: Project:	Safety & Devon T	z Environm Thesnor Mit	ental So chell 30	olutions)-2							
Sample ID	MB-35711	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	PBS	Batch	n ID: 35	711	R	unNo: 4	8084				
Prep Date:	12/26/2017	Analysis D	ate: 12	2/28/2017	S	SeqNo: 1	541238	Units: mg/k	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	5.0								
Surr: BFB		780		1000		77.6	15	316			
Sample ID	LCS-35711	SampT	ype: LC	s	Tes	TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch	n ID: 35	711	R	unNo: 4	8084				
Prep Date:	12/26/2017	Analysis D	ate: 12	2/28/2017	S	SeqNo: 1	541239	Units: mg/ł	۲g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	27	5.0	25.00	0	108	75.9	131			
Surr: BFB		980		1000		97.5	15	316			
Sample ID	MB-35757	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	PBS	Batch	n ID: 35	757	RunNo: 48111						
Prep Date:	12/28/2017	Analysis D	ate: 12	2/29/2017	S	SeqNo: 1	542681	Units: mg/k	۲g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	5.0								
Surr: BFB		830		1000		83.3	15	316			
Sample ID	LCS-35757	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID:	LCSS	Batch	n ID: 35	757	R	RunNo: 4	8111				
Prep Date:	12/28/2017	Analysis D	ate: 12	2/29/2017	S	SeqNo: 1	542682	Units: mg/ł	۲g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	27	5.0	25.00	0	106	75.9	131			
Surr: BFB		950		1000		94.6	15	316			

- * 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 Quanitative 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
- Page 14 of 16

WO#:	1712D95	
	10 7 10	

Client:SafetyProject:Devon	& Environm Thesnor Mit	ental So tchell 30	olutions)-2							
Sample ID MB-35711	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 35	711	F	RunNo: 4					
Prep Date: 12/26/2017	Analysis E	2/28/2017	S	SeqNo: 1	541278	Units: mg/ł	٢g			
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		90.4	80	120			
Sample ID LCS-35711	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: 35	711	F	RunNo: 4	8084				
Prep Date: 12/26/2017	Analysis [Date: 12	2/28/2017	S	SeqNo: 1	541279	Units: mg/ł	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.92	0.10	1.000	0	91.7	70.1	121			
Benzene	0.89	0.025	1.000	0	88.7	77.3	128			
Toluene	0.91	0.050	1.000	0	90.5	79.2	125			
Ethylbenzene	0.89	0.050	1.000	0	89.5	80.7	127			
Xylenes, Total	2.7	0.10	3.000	0	91.2	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			
Sample ID MB-35757	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 35	757	F	RunNo: 4					
Prep Date: 12/28/2017	Analysis [Date: 12	2/29/2017	S	SeqNo: 1	542734	Units: mg/ł	٨g		
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	0.96		1.000		96.1	80	120			
Sample ID LCS-35757	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: 35	757	F	RunNo: 4	8111				
Prep Date: 12/28/2017	Analysis E	Date: 12	2/29/2017	S	SeqNo: 1	542735	Units: mg/ł	٢g		
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	97.3	70.1	121			
Benzene	0.92	0.025	1.000	0	92.4	77.3	128			
Toluene	0.94	0.050	1.000	0	94.2	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	94.6	80.7	127			

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 Quanitative 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

Page 15 of 16

WO#:	1712D95

Page 16 of 16

10-Jan-18

Client: Project:	Safety & Devon Th	Environm esnor Mit	ental So chell 30	olutions)-2										
	CS-35757	SamnT		·s	Tes	tCode: FI	PA Method	8021B: Vola	tilos					
		Datak	, ID. 25	767	гсэ г			00210. 0010	lines					
	LUSS	Batch	11D: 35	/5/	P	KUNINO: 40	8111		_					
Prep Date:	12/28/2017	Analysis D	ate: 12	2/29/2017	5	SeqNo: 1	542735	Units: mg/k	(g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Xylenes, Total		2.9	0.10	3.000	0	96.3	81.6	129						
Surr: 4-Bromo	ofluorobenzene	0.98		1.000		98.2	80	120						
Sample ID	1712D95-010AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	8021B: Vola	tiles					
Client ID:	TT-1 3ft	Batch	n ID: 35	757	RunNo: 48111									
Prep Date:	12/28/2017	Analysis D	ate: 12	2/29/2017	5	SeqNo: 1	542737	Units: mg/k	٢g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Methyl tert-butyl	ether (MTBE)	0.95	0.10	0.9950	0	95.2	72.5	138						
Benzene		0.93	0.025	0.9950	0	93.1	80.9	132						
Toluene		0.96	0.050	0.9950	0	96.8	79.8	136						
Ethylbenzene		0.98	0.050	0.9950	0	98.2	79.4	140						
Xylenes, Total		3.0	0.10	2.985	0	99.5	78.5	142						
Surr: 4-Bromo	fluorobenzene	0.98		0.9950		98.6	80	120						
Project: Devon Thesnor Mitchell 30-2 Sample ID LCS-35757 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 35757 RunNo: 48111 Prep Date: 1228/2017 Analysis Date: 1228/2017 SeqNo: 1542735 Units: mg/Kg Analyte Result POL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Xylenes, Total 2.9 0.10 3.000 0 96.3 81.6 129 Sum 4-Bromofluorobenzene 0.98 1.000 98.2 80 120 Sample ID 1712D95-010AMS SampType: MS TestCode: EPA Method 8021B: Volatiles Client ID: TT-1 3t Batch ID: 35757 RunNo: 48111 Prep Date: 12/28/2017 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit														
Client ID:	TT-1 3ft	Batch	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual 0.10 3.000 0 96.3 81.6 129 1.000 98.2 80 120 100 98.2 80 120 oType: MS TestCode: EPA Method 8021B: Volatiles 100 100 100 100 98.2 80 120 100 100 100 100 100 100 100 100 100 100 100 98.2 70.1 Units: mg/Kg 100 100 100 100 9950 95.2 72.5 138 100 100 100 100 9950 98.2 79.4 140 100 100 100 100 100 99.5 78.5 142 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100											
Prep Date:	12/28/2017	Analysis D	ate: 12	2/29/2017	S	SeqNo: 1	542738	Units: mg/k	٢g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Methyl tert-butyl	ether (MTBE)	0.99	0.096	0.9615	0	103	72.5	138	4.61	20				
Benzene		0.97	0.024	0.9615	0	101	80.9	132	4.56	20				
Toluene		1.0	0.048	0.9615	0	105	79.8	136	4.31	20				
Ethylbenzene		1.0	0.048	0.9615	0	105	79.4	140	3.28	20				
Xylenes, Total		3.1	0.096	2.885	0	107	78.5	142	4.23	20				
Surr: 4-Bromo	fluorobenzene	0.94		0.9615		97.8	80	120	0	0				

- * 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 Quanitative 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

	RONMENTAL YSIS PRATORY	Hall Environment A. TEL: 505-345-39 Website: www.	al Analy. 490 Ibuquerq 75 FAX: hallenvir	sis Laborator, 1 Hawkins NI ue, NM 8710! 505-345-410', conmental.com	^y Sai	Sample Log-In Check List									
Client Name:	Safety Env Solutions	Work Order Numbe	er: 1712	2D95		RcptNo: 1									
Received By:	Erin Melendrez	12/22/2017 9:40:00 /	٩M	l	LUA	5									
Completed By:	Sophia Campuzano	12/22/2017 2:49:03 F	м		Soutie Com										
Reviewed By:	ENM	12/27/17			01 27										
Chain of Cus	stody														
1. Custody sea	als intact on sample bottles?		Yes		No 🗌	Not Present 🗹									
2. Is Chain of (Custody complete?		Yes		No 🗌	Not Present									
3. How was the	e sample delivered?		<u>Cou</u>	<u>rier</u>											
<u>Log In</u>															
4. Was an atte	empt made to cool the sample	es?	Yes		No 🗌										
5. Were all sar	nples received at a temperat	ure of >0° C to 6.0°C	Yes		No 🗌										
6. Sample(s) ir	n proper container(s)?		Yes		No 🗌										
7. Sufficient sa	mple volume for indicated tes	st(s)?	Yes		No 🗌										
8. Are samples	(except VOA and ONG) prop	perly preserved?	Yes	\checkmark	No 🗋										
9. Was preserv	ative added to bottles?		Yes		No 🔽	NA 🗀									
10.VOA vials ha	ive zero headspace?		Yes	F -1	No 🗍	No VOA Viale									
11. Were any sa	mple containers received bro	oken?	Yes		No 🔽										
12.Does paperw (Note discrep	ork match bottle labels?		Yes		No 🗌	# of preserved bottles checked for pH:									
13 Are matrices	correctly identified on Chain	of Custody?	Yes		No 🗔	Adjusted?									
14. Is it clear what	at analyses were requested?	-	Yes		No 🗌										
15. Were all hold (If no, notify c	ing times able to be met? customer for authorization.)		Yes		No 🗌	Checked by:									

Special Handling (if applicable)

Person Notified:	Date:	_			
By Whom:	¥ Via: □ eMail	Phone	□ Fax	🗌 In Pers	on
Regarding:					
Client Instructions:		-			

_

17. Additional remarks:

18. Cooler Information

Cooler No Temp	C Conditio	n Seal Intac	Seal No Se	al Date Signed By
1 0.4	Good	Yes		

	LABORATORY	iental.com	rque, NM 87109	05-345-4107	kequest				(N 2808	or (AC	(Ai i-V(N Desti me2) 0 M D M D M M M M M M M M M M M M M M M M	808 826 7 826	X	X	X			 X	X		X	X	X				notated on the analytical report.
	ANALYSIS	www.hallenvironm	4901 Hawkins NE - Albuque	Tel. 505-345-3975 Fax 5	Analysis F	() () (O) ()	S, MF	(Ge MIS	20N ³ 072 (1.1) (1.1) (1.1) (1.1)	0 ³ 103 118 118 118 118 118	21, N 00 4 00 4 00 4 00 4 00 4 00 4 00 4 00	-M + X∃ 3∂108 + H9M) H H9M) 8 H9M) 8 158) 2'H K83 A M 8 A A A A S A A A A A A A A A A A A A A A	RCI PAI RCI RCI	X						X		 	X			arks:		itty. Any sub-contracted data will be clearly
			2 30-2			(1208	3) s'	TMB		181 FO=(L)	EAL No EAL No	2095 IT8	X Ioc	202 X	os X		ou X	205 X	Dolo X	·	Z X	D8 X	og X	010		e Time	rves as notice of this possibili
Time:	🗆 Rush	Bert	r Mircher		-17-002	Jer:	Jer 1	Jan J	ment . was	Z Yes Ja No	erature (), 1-0,	Preservative Type	Tév In	Neil -	/ · · / - c) - [/	1) (1			Ĭ		- <u> </u>	20127 -(() Dat	Dat	redited laboratories. This se
Turn-Around 7	M Standard	Project Name	Thesur	Project #:	292	Project Manag	-Allo	ON FI CO	Sampler:	On Ice:	Sample Temp	Container Type and #		<u> </u>		/			. ~	~		~)	/	N.B.A.W	Received by.	Received by:	contracted to other acc
Record	ornal Al		V, wen	88240	570		-	(Full Validation)				e Request ID		417-	5F	1197		25	36-	(0H)	. 4	557	36-	C0A	3 Hi De			vironmental may be sub
Custody	x Gurun	Justice	03 63 (1 NON	- 397- 0			Level 4			_	trix Sampl		1-12 5	5 75-1	5 77-1		C 11-2	772	5 17-2		2-17-2	5 11-3	6-11 3	1 TT-1		quished by:	es submitted to Hall Er
hain-of-	Stat	JA N	Address: γ	140bb	# 575	r Fax#:	ackage:	dard	tation		(Type)	Time		1025	2055 2	1215		1255 <	1315 5	1353 4	•	5 01/1	1425 ;	162.0 \$	1000 50	Time: Relin	Time: Relin	necessary, sample
ပ	Client:		Mailing		Phone #	email or	QA/QC F	🕅 Stan	Accredit			Date	٩,	12/18	12/18	81/2/		12/18	(z/r B	81/21	4	12/18	12/10	12/18	12/18	Jate: Date:	Date:	

Appendix D Site Photographs

Devon-Tresnor Mitchell

Photos-12/5/2017































