

May 30, 2017

VIA Email: <u>Olivia.yu@state.nm.us</u> VIA Email: <u>Tomas.Oberding@state.nm.us</u>

Ms. Olivia Yu Environmental Specialist New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, New Mexico 88240 **APPROVED** By Olivia Yu at 3:24 pm, Jul 13, 2017

NMOCD approves the remediation plan of no further action needed for 1RP-4665.

# Re: 1RP-4665 - Amended Spill Delineation Report, Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site #2, Lea County, New Mexico

Dear Ms. Yu,

Larson & Associates, Inc. (LIA) submits this amended delineation spill report for the Epperson 16" pipeline release Site #2 to the New Mexico Oil Conservation Division (OCD) in response to a conference call between Ms. Christina Higginbotham with Targa Resources, Dr. Tomas Oberding, you and me, on May 4, 2017. The following responses are for questions from the conference call:

Question: Vertical delineation for chloride is necessary for borings SB-1, SB-2, SB-3 and SB-4 given that depth to obtain and maintain 250 mg/kg chloride levels for 10 more ft below.

Response: Soil samples were collected with direct push technology at locations SB-1, SB-2, SB-3 and SB-4. Caliche prevented collecting samples below about 2 feet bgs (SB-2), 3 feet bgs (SB-1 and SB-3) and 4 feet bgs (SB-4). An air rotary rig and jam tube sampler were used to collect samples at SB-5, located about 5 feet southwest of SB-4, SB-6, located about 10 feet east of SB-1, and SB-7, and located about 10 feet north of SB-3. Borings SB-5, SB-6 and SB-7 were advanced to approximately 25 feet bgs with soil samples collected every 5 feet. Chloride was vertically delineated below 250 mg/kg, with at least 10 feet of samples reporting chloride below 250 mg/Kg.

The laboratory analyzed additional samples for chloride from borings SB-5 (10 feet and 20 feet), SB-6 (10 feet and 20 feet) and SB-7 (10 feet, 20 feet and 25 feet). All samples reported chloride below 250 mg/kg. Table 1 presents the revised soil sample analytical data summary. Figure 3 presents the boring locations. Targa requests no further action for 1RP-4665. Please contact Christina Higginbotham with Targa at (713) 584-1396 or chigginbotham@targaresources.com or me at (432) 687-0901, if you have questions.

Sincerely,

Larson & Associates, Inc.

Mark J. Larson President/Sr. Project Manager Encl.

cc: Christina Higginbotham

Table

## Table 1

## Delineation Soil Sample Analytical Data Summary

## Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site #2

Lea County, New Mexico

N33° 21' 02.09100" W103° 34' 22.51247"

Page 1 of 2

Countin	Council a Double				54 22.512		ORO	трн	Chloride
Sample	Sample Depth		Status	PID	GRO	DRO			
	(Feet bgs)	Date		(ppm)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
OCD RRAL	}							100	250
SB-1	1	7/5/2016	In-Situ	0.9	<4.00	<50.0	<50.0	<50.0	173
	2	7/5/2016	In-Situ	1.2	<4.00	<50.0	<50.0	<50.0	742
	3	7/5/2016	In-Situ	2.0	<4.00	<50.0	<50.0 	<50.0	438
SB-2	1	7/5/2016	In-Situ	0.1	<4.00	<50.0	<50.0	<50.0	72.2
	2	7/5/2016	In-Situ	0.1	<4.00	<50.0	<50.0	<50.0	508
	6	10/20/2016	In-Situ	N.**					64.7
	8	10/20/2016	In-Situ			•••		~~	<25.0
	10	10/20/2016	In-Situ						<25.0
	12	10/20/2016	In-Situ						28.0
	14	10/20/2016	In-Situ	-11-	da fo				<25.0
	16	10/20/2016	In-Situ		~ ~				<25.0
	1	7/5/2016	In-Situ	0.0	<4.00	<50.0	<50.0	<50.0	<25.0
	2	7/5/2016	In-Situ	0.0	<4.00	<50.0	<50.0	<50.0	255
	3	7/5/2016	In-Situ	0.0	<4.00	<50.0	<50.0	<50.0	222
SB-4	1	7/5/2016	In-Situ	0.0	<4.00	<50.0	<50.0	<50.0	193
	2	7/5/2016	In-Situ	0.0	<4.00	<50.0	<50.0	<50.0	658
	3	7/5/2016	In-Situ	1.0	<4.00	<50.0	<50.0	<50.0	732
	4	7/5/2016	In-Situ	3.7	<4.00	<50.0	<50.0	<50.0	131
*\$B-5	0	2/9/2017	In-Situ	0.6	<26.6	<26.6	<26.6	<26.6	44.2
	5	2/9/2017	In-Situ	1.4	<26.6	<26.6	<26.6	<26.6	12.3
	10	7/5/2016	In-Situ	2.3					<1.08
	15	7/5/2016	In-Situ	1.4	<26.6	<26.6	<26.6	<26.6	3.85
	20	7/5/2016	In-Situ	1.5					<1.06
	25	7/5/2016	In-Situ	4.6	<26.6	<26.6	<26.6	<26.6	4.11
*SB-6	0	2/9/2017	In-Situ	0.3	<27.8	<27.8	<27.8	<27.8	16.1
	5	2/9/2017	In-Situ	0.5	<27.5	<27.5	<27.5	<27.5	646
	10	7/5/2016	1	7.6			**	<b>WH</b>	13.2
	15	7/5/2016	In-Situ	1.4	<26.0	<26.0	<26.0	<26.0	7.28
	20	7/5/2016	In-Situ	0.8	u~				<1.03
	25	7/5/2016	In-Situ	1.1	<26.3	<26.3	<26.3	<26.3	5.51
*SB-7	0	2/9/2017	In-Situ	0.3	<25.3	<25.3	<25.3	<25.3	65.8
	5	2/9/2017	In-Situ	0.3	<27.8	<27.8	<27.8	<27.8	360
	10	7/5/2016	In-Situ	3.9					97.8
	15	7/5/2016	In-Situ	25	<28.4	<28.4	<28.4	<28.4	18.3
	20	7/5/2016	In-Situ	1.0					3.15
	25	7/5/2016	In-Situ	6.1	<26.3	<26.3	<26.3	<26.3	8.19

### Table 1

#### Delineation Soil Sample Analytical Data Summary

#### Targa Midstream Services, LLC, Epperson 16" Pipeline Release Site #2

#### Lea County, New Mexico

## N33° 21' 02.09100" W103° 34' 22.51247"

Page 2 of 2

Notes: Laboratory analysis performed by Trace Analysis, Inc., Lubbock, Texas by EPA SW-846 Method 8021B (BTEX), Method 8015M (TPH) and Method 300 (chloride).

\*: Anaylsis performed by Permian Basin Environmental Lab, Midland, Texas

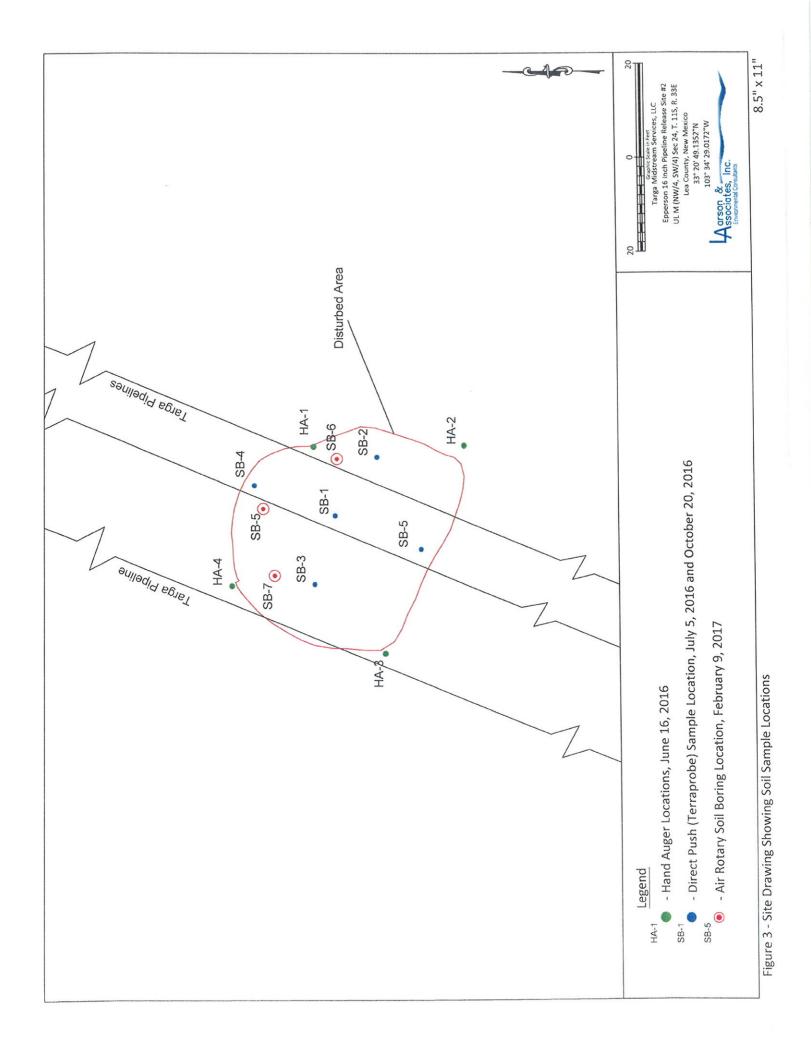
\*\*: OCD delineation limit

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

--: No data available

Figure



Attachment A

Laboratory Report

PERMIAN BASIN ENVIRONMENTAL LAB, LP 1400 Rankin Hwy Midland, TX 79701



## Analytical Report

## Prepared for:

Mark Larson Larson & Associates, Inc. P.O. Box 50685 Midland, TX 79710

Project: Epperson Site 2 Project Number: 16-0120-02 Location: New Mexico

Lab Order Number: 7B10002



NELAP/TCEQ # T104704156-16-6

Report Date: 05/16/17

Page 1 of 29

	Larson & Associates, Inc.	Project:	Epperson Site 2	Fax: (432) 687-0456
	P.O. Box 50685	Project Number:	16-0120-02	
	Midland TX, 79710	Project Manager:	Mark Larson	
- 1				

## ANALYTICAL REPORT FOR SAMPLES

B-5 0'	7B10002-01	Soil	02/00/17 20:00	
			02/09/17 10:22	02-10-2017 09:30
B-5 5'	7B10002-02	Soil	02/09/17 10:32	02-10-2017 09:30
33-5-10'	7810002-03	Soil	02/09/17 10:36	02-10-2017 09:30
B-5 15'	7B10002-04	Soil	02/09/17 10:40	02-10-2017 09:30
B-5 20°	7B10002-05	Soil	02/09/17 10:42	02-10-2017 09:30
B-5 25'	7B10002-06	Soil	02/09/17 10:46	02-10-2017 09:30
B-6 0'	7B10002-07	Soil	02/09/17 11:05	02-10-2017 09:30
B-6 5'	7B10002-08	Soil	02/09/17 11:13	02-10-2017 09:30
B-6 10'	7B10002-09	Soil	02/09/17 11:17	02-10-2017 09:30
B-615'	7B10002-10	Soil	02/09/17 11:19	02-10-2017 09:30
B-6 20'	7B10002-11	Soil	02/09/17 11:21	02-10-2017 09:30
8-6 25'	7B10002-12	Soil	02/09/17 11:23	02-10-2017 09:30
B-7 0'	7B10002-13	Soil	02/09/17 11:30	02-10-2017 09:30
B-7 \$'	7B10002-14	Soil	02/09/17 11:44	02-10-2017 09:30
B-7 10'	7B10002-15	Soil	02/09/17 11:47	02-10-2017 09:30
B-7 15'	7B10002-16	Soil	02/09/17 11:53	02-10-2017 09:30
B-7 20'	7B10002-17	Soil	02/09/17 11:55	02-10-2017 09:30
B-7 25'	7B10002-18	Soil	02/09/17 11:59	02-10-2017 09:30

Larson & Associates, Inc.	Project:	Epperson Site 2	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	16-0120-02	
Midland TX, 79710	Project Manager:	Mark Larson	
· ····································			

SB-5 0'

		7B10	002-01 (Soi	1)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pern	nian Basin l	Cuvironmen	ital Lab, I	L.P.				
General Chemistry Parameters by EPA/	Standard Method	\$							
Chloride	44.2	1.06	mg/kg dry	1	P7B1504	02/15/17	02/16/17	EPA 300.0	
% Molsture	6.0	0.1	%	ł	P7131308	02/13/17	02/13/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 b	v EPA Method 80	15M							
C6-C12	ND	26.6	mg/kg dry	1	P7B1604	02/15/17	02/15/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7B1604	02/15/17	02/15/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	i	P7B1604	02/15/17	02/15/17	TPH 8015M	
Surrogate: 1-Chloroactane		95.8 %	70-1	30	P7B1604	02/15/17	02/15/17	TPH 8015M	
Surrogate: o-Terphenyl		115 %	70-1	30	P7B1604	02/15/17	02/15/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	(CALC)	02/15/17	02/15/17	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Page 3 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Project Num	ect: Epperso ber: 16-0120 ger: Mark La	-02				Fax: (432) 68	7-0456
			SB-5 5'						
		7B10	002-02 (Soil	)			,		
Anatyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	iian Basin F	Invironmen	tal Lab, I	L,P,				
General Chemistry Parameters by EPA /	Standard Method	<u>s</u>							
							·		
Chloride	12.3	1.06	mg/kg dry	1	P7B1013	02/10/17	02/13/17	EPA 300.0	
	12.3 6.0	1.06 0.)	mg/kg dry %	1	P7B1013 P7B1308	02/10/17 02/13/17	02/13/17 02/13/17	EPA 300.0 % calculation	*******
Chloride % Moisture Fotal Petroleum Hydrocarbons C6-C35 I	6.0	0,}		ł					
% Moisture Fotal Petroleum Hydrocarbons C6-C35 I	6.0	0,}		1					
6 Moisture Fotal Petroleum Hydrocarbons C6-C35 1 76-C12	6.0 by EPA Method 80	0.) <u>15M</u>	%	21 22	P7B1308	02/13/17	02/13/17	% calculation	
6 Moisture Fotal Petroleum Hydrocarbons C6-C35   76-C12 7C12-C28	6.0 Dy EPA Method 80 ND	0.) 15M 26.6	% mg/kg dry	1	P7B1308 P7B1403	02/13/17 02/10/17	02/13/17	% calculation TPH 8015M	
6 Moisture Fotal Petroleum Hydrocarbons C6-C35   76-C12 -C12-C28 -C28-C35	6.0 by EPA Method 80 ND ND	0.) 15M 26.6 26.6	% mg/kg dry mg/kg dry	1 1 1 1 1 30	P7B1308 P7B1403 P7B1403	02/13/17 02/10/17 02/10/17	02/13/17 02/10/17 02/10/17	% calculation TPH 8015M TPH 8015M	
% Moisture	6.0 by EPA Method 80 ND ND	0.) 15M 26.6 26.6 26.6	% mg/kg dry mg/kg dry mg/kg dry		P7B1308 P7B1403 P7B1403 P7B1403	02/13/17 02/10/17 02/10/17 02/10/17	02/13/17 02/10/17 02/10/17 02/10/17	% calculation TPH 8015M TPH 8015M TPH 8015M	

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Page 4 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		roject Num	eet: Epperso ber: 16-0120 ger: Mark L	0-02				Fax: (432) 68	7-0456
			6 <b>B-5</b> 10' 002-03 (So	il)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Permi	an Basin E	Invironme	ntal Lab, I	L.P.				
General Chemistry Parameters by H	PA / Standard Methods								
Chloride <b>% Moistur</b> e	ND 7.0	1.08 0.1	mg/kg dry %	ł	P7E1011 P7B1308	05/10/17 02/13/17	05/11/17 02/13/17	EPA 300.0 % calculation	

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Page 5 of 29

Larson & Associates, Inc.		Proj	ect: Epperso	n Site 2				Fax: (432) 68	7-0456
P.O. Box 50685		Project Num	ber: 16-0120	-02					
Midland TX, 79710		Project Mana	ger: Mark La	rson					
		S	B-5 15'						
		7810	002-04 (Soil	)					
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Panaval Chamidan Davamatana tu, 1994.		vian Basin E	Invironmen	tal Lab, J	LAP.				
<u>Seneral Chemistry Parameters by EPA /</u> Chloride	Standard Method 3.85	<u>s</u> 1.08	mg/kg dry	1	P7B1013	02/10/17	02/13/17	EPA 300.0	
6 Moisture	7.0	0.1	%	ì	P7B1308	02/13/17	02/13/17	% calculation	
<u>`otal Petroleum Hydrocarbons C6-C35 I</u>	by EPA Method 80	15M							
C6-C12	ND	26.9	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
C12-C28	ND	26.9	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
C28-C35	ND	26.9	mg/kg dry	J	P7B1403	02/10/17	02/10/17	TPH 8015M	
				~					
urrogate: 1-Chlorooctane		95.4 %	70-13	10	P7B1403	02/10/17	03/10/17	TPH 8015M	
urrogate: 1-Chlarooctane urrogate: 0-Terphenyl		95.4 % 102 %	70-13 70-13		P7B1403 P7B1403	02/10/17 02/10/17	03/10/17 02/10/17	TPH 8015M TPH 8015M	

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Page 6 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Project Num	ect: Epperso ber: 16-012 ger: Mark L	0-02				Fax: (432) 68	7-0456
			6B-5 20' 002-05 (So	it)					
Analyte	Result	Reporting Limit	Units	Ditution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ian Basin I	<i>invironme</i>	ntal Lab, I	L.P.				
General Chemistry Parameters by F	PA / Standard Methods								
Chloride	ND	1.06	mg/kg dry	1	P7E1011	05/10/17	05/11/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7B1308	02/13/17	02/13/17	% calculation	

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Page 7 of 29

Larson & Associates, Inc.		Proj	eci: Epperso	n Site 2				Fax: (432) 68'	7-0456
P.O. Box 50685		Project Numb	per: 16-0120	-02					
Midland TX, 79710	]	roject Manag	ger: Mark La	arson					
		s	B-5 25'						
		7B10	002-06 (Soi	1)					
		Reporting							
Analyte	Result	Límit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				ital Lab, l					
General Chemistry Parameters by EPA / Thioride	Standard Method: 4.11	s 1.04	mg/kg dry	1	P7B1013	02/30/17	02/13/17	EPA 300.0	·
				1		02/30/17 02/13/17	02/13/17 02/13/17	EPA 300.0 % calculation	<u></u>
chloride 6 Moisture	4.11 4.0	1.04 0.1	mg/kg dry	1	P7B1013				
hloride 6 Moisture dtal Petroleum Hydrocarbons C6-C35 b	4.11 4.0	1.04 0.1	mg/kg dry	1 1 1	P7B1013				
Chloride	4.11 4.0 9 <u>7 EPA Method 80</u> 1	1.04 0.3 ISM	mg/kg dry %	1 1 1 1	P7B1013 P7B1308	02/13/17	02/13/17	% calculation	· · · · · · · · · · · · · · · · · · ·
ihioride 6 Moisture <u>iotal Petroleum Hydrocarbons C6-C35 h</u> 6-C12 C12-C28	4.11 4.0 i <u>y EPA Method 80</u> 1 ND ND ND	1.04 0.3 1 <u>5M</u> 26.0	mg/kg dry % mg/kg dry	1 1 1 1 1	P7B1013 P7B1308 P7B1403	02/13/17 02/10/17	02/13/17	% calculation TPH 8015M	
hloride 6 Moisture 6-C12 C12-C28 C28-C33	4.11 4.0 by EPA Method 80 ND ND	1.04 0.3 1 <b>5M</b> 26.0 26.0	mg/kg dry % mg/kg dry mg/kg dry	1 1 1 1 1	P7B1013 P7B1308 P7B1403 P7B1403	02/13/17 02/10/17 02/10/17	02/13/17 02/10/17 02/10/17	% calculation TPH 8015M TPH 8015M	
ihloride 6 Moisture 1914 - Marcarbons C6-C35 b 1915 - C12	4.11 4.0 i <u>y EPA Method 80</u> 1 ND ND ND	1.04 0.) 15M 26.0 26.0 26.0	mg/kg dry % mg/kg dry mg/kg dry mg/kg dry	1 1 1 1 30	P7B1013 P7B1308 P7B1403 P7B1403 P7B1403	02/13/17 02/10/17 02/10/17 02/10/17	02/13/17 02/10/17 02/10/17 02/10/17	% calculation TPH 8015M TPH 8015M TPH 8015M	

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Page 8 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proj Project Num Project Manaj		-02				Fax: (432) 68	7-0456
			SB-6 0'					<u> </u>	
		7 <b>B</b> 10	002-07 (Soil	)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pern	nian Basin E	Invironmen	tal Lab, l	L, P,				
General Chemistry Parameters by EPA / :	Standard Method	\$							
Phloride	16.1	1.11	mg/kg dry	1	P7B1504	02/15/17	02/16/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7B1308	02/13/17	02/13/17	% calculation	
otal Petroleum Hydrocarbons C6-C35 b	y EPA Method 80	15M							
26-C12	ND	27.8	mg/kg dry	)	P7B1604	02/15/17	02/15/17	TPH 8015M	
C12-C28	ND	27.8	mg/kg dry	I	P7B1604	02/15/17	02/15/17	TPH 8015M	
-C28-C35	ND	27.8	mg/kg dry	1	P7B1604	02/15/17	02/15/17	TPH 8015M	
urrogate: 1-Chlorooctane		89.5 %	70-1.	30	P7B1604	02/15/17	02/15/17	TPH 8015M	
urrogate: o-Terphenyl		99.4 %	70-1.	30	P7B1604	02/15/17	02/15/17	TPH 8015M	
fotal Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	02/15/17	02/15/17	calc	

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Page 9 of 29

Larson & Associates, Inc.		Proj	ect: Eppersor	n Site 2				Fax: (432) 681	7-0456
P.O. Box 50685		Project Num	per: 16-0120-	02					
Midland TX, 79710		Project Manaj	ger: Mark La	rson					
		:	SB-6 5'						
		7B10	002-08 (Soil	)					
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by EPA /	Standard Method	•							
JUNCIAL CACINISH Y FATAMETERS DV L.PA/									
Chloride	646	s 1.10	ing/kg dry	1	P7B1013	02/10/17	02/13/17	EPA 300.0	
Chloride			mg/kg dry %	1	P7B1013 P7B1308	02/10/17 02/13/17	02/13/17 02/13/17	EPA 300.0 % calculation	
Chloride % Moisture	646 9.6	1.10 0.1		1					
Chloride 6 Moisture Fotal Petroleum Hydrocarbons C6-C35 L	646 9.6	1.10 0.1		1 1					
Chloride 6 Moisture Fotal Petroleum Hydrocarbons C6-C35 f 76-C12	646 9.0 1 <u>9 EPA Method 80</u>	1.10 0.1 15M	%	1	P7B1308	02/13/17	02/13/17	% calculation	
Chloride % Moisture Fotal Petroleum Hydrocarbons C6-C35 <u>b</u> 56-C12 •C12-C28	646 9.0 ND ND ND ND	1.10 0.1 15M 27.5	% mg/kg dry	         	P7B1308 P7B1403	02/13/17	02/13/17	% calculation TPH 8015M	
Chloride % Moisture Fotal Petroleum Hydrocarbons C6-C35 <u>F</u> 76-C12 -C12-C28 -C28-C35	646 9.0 by <u>EPA Method 80</u> ND ND	1.10 0.1 15M 27.5 27.5	% mg/kg dry mg/kg dry	1 1 1 1 1 1	P7B1308 P7B1403 P7B1403	02/13/17 02/10/17 02/10/17	02/13/17 02/10/17 02/10/17	% calculation TPH 8015M TPH 8015M	
	646 9.0 ND ND ND ND	1.10 0.1 15M 27.5 27.5 27.5	% mg/kg dry mg/kg dry mg/kg dry		P7B1308 P7B1403 P7B1403 P7B1403 P7B1403	02/13/17 02/10/17 02/10/17 02/10/17	02/13/17 02/10/17 02/10/17 02/10/17	% calculation TPH 8015M TPH 8015M TPH 8015M	

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Page 10 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proj Project Numl roject Manaj		0-02				Fax: (432) 68	7-0456
			B-6 10' 002-09 (So	il)	***********************				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ian Basin E	nvironme	ntal Lab, I					
General Chemistry Parameters by E	PA / Standard Methods								
Chloride % Moisture	13.2 2.0	1.02 0.1	mg/kg dry %	1	P7E1011 P7B1308	05/10/17 02/13/17	05/11/17 02/13/17	EPA 300.0 % calculation	

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Page 11 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proj Project Numl Project Manaj		-02				Fax: (432) 68	7-0456
		5	B-6 15'						
			002-10 (Soi	I)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ilan Basin I	Cavironmen	tal Lab, I	L.P.				
General Chemistry Parameters by EPA /	Standard Method	\$							
Chloride	7.28	1.04	mg/kg đry	1	P7B1013	02/10/17	02/13/17	EPA 300.0	
% Moisture	4.0	0.1	%	)	P7B1308	02/13/17	02/13/17	% calculation	
Total Petroleum Hydrocarbons C6-C35 I	oy EPA Method 80	15M							
06-012	ND	26.0	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
-C12-C28	ND	26.0	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	3412								
and an analysis of the second s		93.7 %	70-1	30	P781403	02/10/17	02/10/17	TPH 8015M	
Surrogate: 1-Chlorooctane Surrogate: 0-Terphenyl	3767		70-1 70-1		P7B1403 P7B1403	02/10/17 02/10/17		TPH 8015M TPH 8015M	

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Page 12 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proje Project Numł Project Manag		0-02				Fax: (432) 68'	7-0456
		-	B-6 20'						
		7810	002-11 (Soi	u)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ian Basin E	invironme	ntal Lab, I	P.				
General Chemistry Parameters by I	PA / Standard Method	6							
Chloride	ND	1.03	mg/kg dry	1	P7E1011	05/10/17	05/11/17	EPA 300.0	
% Moisture	3.0	0.1	%	I	P7B1308	02/13/17	02/13/17	% calculation	

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Larson & Associatos, Inc.		Proj	ect: Epperso	n Site 2				Fax: (432) 6	87-0456
P.O. Box 50685		Project Numl	• •						
Midland TX, 79710		Project Mana	ger: Mark La	rson					
		s	B-6 25'						
		7B10	002-12 (Soi	l)					
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		iian Basin E	Invironmen	ital Lab, I	<b>P</b> .				
General Chemistry Parameters by EPA								ED. 0000	
Chloride	5.51	1,05	mg/kg dry	1	P7B1013	02/10/17	02/13/17	EPA 300.0	
% Moisture	5.0	0.)	%	1	P7B1308	02/13/17	02/13/17	% calculation	
otal Petroleum Hydrocarbons C6-C35	by EPA Method 80	15M							
26-C12	ND	26.3	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
C12-C28	ND	26.3	mg/kg dry	1	P7B1403	02/10/17	02/10/17	трн 8015М	
C28-C35	ND	26.3	mg/kg dry	1	P7B1403	02/10/17	02/10/17	TPH 8015M	
urrogate: 1-Chlarooctane		94.3 %	70-1	30	P781403	02/10/17	02/10/17	TPH 8015M	
urrogate: o-Terphenyl		102 %	70-1	30	P781403	02/10/17	02/10/17	TPH 8015M	
otal Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	02/10/17	02/10/17	calc	

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Page 14 of 29

Larson & Associates, Inc.		Proj	ect: Epperso	n Site 2				Fax: (432) 683	7-0456
P.O. Box 50685		Project Numl	per: 16-0120	-02					
Midland TX, 79710	F	roject Manag	ger: Mark La	rson					
		5	SB-7 0'						
		7B10	002-13 (Soil	I)					
		Reporting							
Analyto	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	_								
General Chemistry Parameters by EPA / Chloride	Standard Methods 65.8	1.01	mg/kg dry	1	P7B1504	02/15/17	02/16/17	EPA 300.0	
Chloride			mg/kg dry %	3	P7B1504 P7B1308	02/15/17 02/13/17	02/16/17 02/13/17	EPA 300.0 % calculation	
Chloride % Moisture	65.8 1.0	1.01 0.1		3					
Chloride % Moisture Fotal Petroleum Hydrocarbons C6-C35 t	65.8 1.0	1.01 0.1		1					
	65.8 1.0 27 EPA Method 801	1.01 0.1 5M	%	3	P7B1308	02/13/17	02/13/17	% calculation	
Chloride % Moisture Fotal Petroleum Hydrocarbons C6-C35 h C6-C12 •C12-C28	65.8 1.0 Dy EPA Method 801 ND	1.01 0.1 5M 25.3	% mg/kg dry	1 1 1 1	P7B1308 P7B1604	02/13/17 02/15/17	02/13/17 02/15/17	% calculation TPH 8015M	
Chloride 6 Moisture Fotal Petroleum Hydrocarbons C6-C35 h 56-C12 •C12-C28 •C28-C35	65.8 1.0 Dy <b>EPA Method 801</b> ND ND	1.01 0.1 5M 25.3 25.3	% mg/kg dry mg/kg dry	1 1 1 1 30	P7B1308 P7B1604 P7B1604	02/13/17 02/15/17 02/15/17	02/13/17 02/15/17 02/15/17	% calculation TPH 8015M TPH 8015M	
Chloride % Moisture Fotal Petroleum Hydrocarbons C6-C35 b C6-C12	65.8 1.0 Dy <b>EPA Method 801</b> ND ND	1.01 0.1 5M 25.3 25.3 25.3	% mg/kg dry mg/kg dry mg/kg dry		P7B1308 P7B1604 P7B1604 P7B1604	02/13/17 02/15/17 02/15/17 02/15/17	02/13/17 02/15/17 02/15/17 02/15/17	% calculation TPH 8015M TPH 8015M TPH 8015M	<u> </u>

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Page 15 of 29

Larson & Associates, Inc.		Proj	ect: Epperso	n Site 2				Fax: (432) 68	7-0456
P.O. Box 50685		Project Num	ber: 16-0120	-02					
Midland TX, 79710		Project Manaj	ger: Mark La	wson					
		:	SB-7 5'						
		7B10	002-14 (Soi	1)					
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<u>General Chemistry Parameters by EPA /</u> Chloride	Standard Method 360	<u>s</u> 1.11	mg/kg dry	}	P7B1013	02/10/17	02/13/17	EPA 300.0	
Chloride			mg/kg dry	}	P7B1013	02/10/17	02/13/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7B1308	02/13/17	02/13/17	% calculation	
<u> Iotal Petroleum Hydrocarbons C6-C35 b</u>	y EPA Method 80	15M							
C6-C12	ND	27.8	mg/kg dry	ì	P7B1403	02/10/17	02/11/17	TPH 8015M	
-C12-C28	ND	27.8	mg/kg dry	1	P7B1403	02/10/17	02/11/17	TPH 8015M	
C14-C48									
	ND	27.8	mg/kg dry	1	P7B1403	02/10/17	02/11/17	TPH 8015M	
•C28-C35		27.8 90.7 %	mg/kg dry 70-1.	1 30	P7B1403 P7B1403	02/10/17 <i>02/10/17</i>	02/11/17 <i>02/11/17</i>	TPH 8015M TPH 8015M	
C12-C26 Surrogate: 1-Chlorooctune Surrogate: o-Terphenyl			· · · ·					and the second	

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Page 16 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson							7-0456
			6B-7 10' 002-15 (So	il)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Permi	an Basin E	Invironme	ntal Lab, I	L.P.				
General Chemistry Parameters by E	PA / Standard Methods								
Chloride % Moisture	97.8 10.0	1.11 0.1	mg/kg dry %	1	P7B1012 P7B1308	02/10/17 02/13/17	02/13/17 02/13/17	EPA 300.0 % calculation	

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Page 17 of 29

Larson & Associates, Inc.Project:Epperson Site 2FP.O. Box 50685Project Number:16-0120-02Midland TX, 79710Project Manager:Mark Larson										
			B-7 15'							
		7B10	002-16 (Soil	)						
Analyto	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
	Perm	ian Basin E	Cavironmen	tal Lab,	L.P.					
General Chemistry Parameters by EPA	/ Standard Method	s								
Chloride	18.3	1.14	mg/kg dry	I	P782301	02/23/17	02/23/17	EPA 300.0		
% Moisture	12.0	0.1	%	l	P7B1308	02/13/17	02/13/17	% calculation		
Total Petrolcum Hydrocarbons C6-C35	by EPA Method 80	15M								
 C6-C12	ND	28.4	mg/kg dry	ι	P7B1403	02/10/17	02/11/17	TPH 8015M		
>C12-C28	ND	28.4	mg/kg dry	ł	P7B1403	02/10/17	02/11/17	TPH 8015M		
>C28-C35	ND	28.4	mg/kg dry	1	P7B1403	02/10/17	02/13/17	TPH 8015M		
Surrogate: 1-Chlorooctane		94.6 %	70-1	30	P781403	02/10/17	02/11/17	TPH 8015M		
Surrogate: o-Terphenyl		102 %	70-1	30	P7B1403	02/10/17	02/11/17	TPH 8015M		
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	ŧ	(CALC)	02/10/17	02/11/17	calc		

The results in this report apply to the samples analyzed in accordance with the samples received in the laborotory. This analytical report must be reproduced in its entirely, with written approval of Permian Basin Environmented Lab.

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Page 18 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proje Project Numł roject Manaj		0-02				Fax: (432) 68	7-0456
		-	B-7 20' 002-17 (So	il)					
		Reporting	·····			•••••	,,		
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ian Basin F	nvironme	ntal Lab, I	ե.թ.				
General Chemistry Parameters by E	PA / Standard Methods	1							
Chloride	3.15	1.05	mg/kg dry	1	P7B2301	02/23/17	02/23/17	EPA 300.0	
% Moisture	5.0	0.1	%	;	P7B1308	02/13/17	02/13/17	% calculation	

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Page 19 of 29

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proje Project Numb Project Manag		-02				Fax: (432) 68	7-0456
		s	B-7 25'						
		7B10	002-18 (Soi	l)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ian Basin E	nvironmer	ital Lab,	L.P.				
General Chemistry Parameters by EPA /	Standard Method	<u>s</u>							
Chloride	8.19	1.05	mg/kg dry	1	P7B2301	02/23/17	02/23/17	EPA 300.0	
% Molsture	5.0	0.1	%	١	P7B1308	02/13/17	02/13/17	% calculation	
<u> Total Petroleum Hydrocarbons C6-C35 b</u>	v EPA Method 80	15M							
C6-C12	ND	26.3	mg/kg dry	1	P7B1403	02/10/17	02/11/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7B1403	02/10/17	02/11/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7B1403	02/10/17	02/11/17	TPH 8015M	
Surrogate: 1-Chloruoctane		94.4 %	70-1	30	P7B1403	03/10/17	02/11/17	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-1	30	P7B1403	02/10/17	02/11/17	TPH 8015M	
Fotal Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	l	{CALC}	02/10/17	02/11/17	calc	

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Page 20 of 29

#### Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

### Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Levei	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7B1012 - *** DEFAULT PREP ***										L
Blank (P7B1012-BLK1) Chloride	ND	1.00	mg/kg wei	Prepared: (	02/10/17 .	Analyzed: 02	/13/17			s
LCS (P7B1012-BS1) Chloride	382	3.00	ing/kg wei	Prepared: 0 400	)2/10/17	Analyzed: 02 95.4	/13/17 80-120		··· ·	
LCS Dup (P7B1012-BSD1) Chtoride	383	1.00	mg/kg wet	Prepared: 0 400	02/10/17	Analyzed: 02 95.9	2/13/17 80-120	0.442	20	
Duplicate (P7B1012-DUP1) Chloride	849	rce: 7B10001	-02 mg/kg dry	Prepared: (	02/10/17 855	Analyzed: 02	2/13/17	0.683	20	
Duplicate (P7B1012-DUP2) Chtoride	Sou 838	rce: 7B10001 5.43	-20 mg/kg dry	Prepared: (	02/10/17 834	Analyzed: 02	2/13/17	0.462	20	•• ••• ••• ••
Matrix Spike (P7B1012-MS1) Chioride	Sou 1 <i>5</i> 60	rce: 7B10001 11.6	-02 mg/kg dry	Prepared: ( 58)	02/10/17 855	Analyzed: 02 121	2/13/17 80-120			QM-07
Batch P7B1013 - *** DEFAULT PREP ***										
Blank (P7B1013-BLK1) Chloride	ND	1.00	ing/kg wel	Prepared:	02/10/17	Analyzed: 01	2/13/17			
LCS (P7B1013-BS1) Chloride	409	1.00	 mg/kg wot	Prepared: 400	02/10/17	Analyzed: 0 102	2/13/17 80-120			
LCS Dup (P7B1013-BSD1) Chloride	455	1.00	m£/k£ wet	Prepared: 400	02/10/17	Analyzed: 0 114	2/13/17 80-120	10.6	20	

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### Permian Basin Environmental Lab, L.P.

Analyic	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7B1013 - *** DEFAULT PREP	***									<u> </u>
Duplicate (P7B1013-DUP1) Chloride	Sour 19200	ce: 7B10003 66.7	01 mg/kg dry	Prepared: (	02/10/17 A 18900	nałyzed: 02	/13/17	1.67	20	
Duplicate (P7B1013-DUP2) Chloride	Sour 774	ce: 7B10004	-01 mg/kg dry	Prepared: (	02/10/17 A 767	nalyzed: 02	/13/17	0.896	20	
Matrix Spike (P7B1013-MS1) Chloride	Sour 21000	ce: 7 <b>B10003</b> 66.7	-01 mg/kg dry	Prepared: ( 1330	02/10/17 A 18900	nalyzed: 02 154	2/13/17 80-120	·	·	QM-07
Batch P7B1308 - *** DEFAULT PREP	***									• • • • • • • • • • • • • • • • • • • •
Blank (P7B1308-BLK1) % Moisture	DM	0.1	%	Prepared &	& Analyzed	02/13/17				
Duplicate (P7B1308-DUP1) % Moisture	Sour 3 0	ce: 7B10001 0.1	-26 %	Prepared &	& Analyzed 3.0	: 02/13/17	/	0.00	20	
Duplicate (P7B1308-DUP2) % Moisture	Sour 5.0	ce: 7B10002 0.1	-12 %	Prepared &	& Analyzed 5.0	: 02/13/17		0.00	20	
Batch P7B1504 - *** DEFAULT PREP	***									
Blank (P7B1504-BI.K1) Chloride	ND	1.00	mg/kg wet	Prepared:	02/15/17 /	nalyzed: 0	2/16/17			····.
LCS (P7B1504-BS1) Chloride	398	1.00	mg/kg wet		02/15/17 /	nalyzed: () 99.4	2/16/17 80-120			

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPÐ Limít	Notes
Batch P7B1504 - *** DEFAULT PRE	<u>P***</u>		·							
LCS Dup (P7B1504-BSD1)				Prepared: (	02/15/17 A	nalyzed: 02	/16/17			
Chloride	414	1.00	mg/kg wet	400		104	80-120	4.06	20	
Duplicate (P7B1504-DUP1)	Sourc	e: 7810001	-01	Prepared: 6	02/15/17 A	nalyzed: 02	/16/17		-	
Chloride	2960	27.2	mg/kg dry		2970			0.275	20	
Duplicate (P7B1504-DUP2)	Source	e: 7B10001	-17	Prepared: (	02/15/17 A	nalyzed: 02	/16/17			
Chloride	8.65	1.04	mg/kg dry		8.55			1.09	20	
Matrix Spike (P7B1504-MS1)	Sourc	e: 7B10801	-01	Prepared:	02/15/17 A	nalyzed: 02	/16/17			
Chloride	4290	27,2	mg/kg dry	1090	2970	121	80-120			
Batch P7B2301 - *** DEFAULT PRE	P ***									
Blank (P7B2301-BLK1)				Prepared A	č Analyzed	: 02/23/17				
Blank (P7B2301-BLK1) Chloride	ал	1.00	mg/kg wei	Prepared &	k Analyzed	: 02/23/17				
	ân	1.00	mg/kg wei		k Analyzed k Analyzed					
Chloride LCS (P7B2301-BS1)	ND 439		mg/kg wet				80-120			
Chloride				Prepared &		: 02/23/17	80-120			·······
Chloride L.CS (P7B2301-BS1) Chloride L.CS Dup (P7B2301-BSD1)		}.00		Prepared &	& Analyzed	: 02/23/17	80-120 80-120	1.88		
Chloride LCS (P7B2301-BS1) Chloride	439 431	}.00	mg/kg wet	Prepared & 400 Prepared & 400	& Analyzed	: 02/23/17 110 : <u>02/23/17</u> 108			20	
Chloride LCS (P7B2301-BS1) Chloride LCS Dup (P7B2301-BSD1) Chloride Duplicate (P7B2301-DUP1)	439 431	1.00 1.00 cc: 7B17013	mg/kg wet	Prepared & 400 Prepared & 400	& Analyzed & Analyzed	: 02/23/17 110 : <u>02/23/17</u> 108		I.88 0.377	20	
Chloride LCS (P7B2301-BS1) Chloride LCS Dup (P7B2301-BSD1) Chloride	439 431 Souri 1750	1.00 1.00 cc: 7B17013	mg/kg wet mg/kg wet -02 mg/kg óry	Prepared & 400 Prepared & 400 Prepared & 400 Prepared &	& Analyzed & Analyzed & Analyzed	: 02/23/17 110 : 02/23/17 108 : 02/23/17				· · · · ·

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### Permian Basin Environmental Lab, L.P.

					,					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	(193)	RPD Limit	Notes
Batch P7B2301 - *** DEFAULT PREP *	**									
Matrix Spike (P7B2301-MSI)	Source	: 7B17013-	02	Prepared &	Analyzed	02/23/17				
Chloride	2910	5.38	mg/kg dry	1080	1760	107	80-120			
Batch P7E1011 - *** DEFAULT PREP *	**		<u> </u>							
Blank (P7E1011-BLK1)				Prepared: (	)5/10/17 A	nalyzed: 05	/11/17			
Chloride	ND	1.00	mg/kg wet							
LCS (P7E1011-BS1)				Prepared: (	05/10/17 A	nalyzed: 05	5/11/17			
Chloride	408	1.00	mg/kg wei	400		102	80-120			
LCS Dup (P7E1011-BSD1)				Prepared: (	05/10/17 A	nalyzed: 05	5/11/17			
Chloride	408	1.00	mg/kg wet	400		102	80-120	0.142	20	
Duplicate (P7E1011-DUP1)	Source	e: 7B10001	-19	Prepared: (	05/10/17 A	malyzed: 05	5/11/17			
Chloride	1720	11.8	mg/kg dry		1730			0.921	20	
Duplicate (P7E1011-DUP2)	Source	e: 7B10002	-05	Prepared:	05/10/17 A	analyzed: 05	5/11/17			
Chloride	ND	1.06	mg/kg dry		ND				20	
Matrix Spike (P7E1011-MS1)	Sourc	e: 7 <b>B10001</b>	-19	Prepared:	05/10/17 A	natyzed: 0	5/11/17			
Chloride	2840	11,8	mg/kg dry	1180	1730	94.1	80-120			

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson

### Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

### Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7B1403 - TX 1005										· · · · · ·
Blank (P7B1403-BLKI)		·	·	Prepared &	Analyzed	: 02/10/17				
C6-C12	ND	25.0	mg/kg wei	.*	· · · · ·					
>C12-C28	NĐ	25.0	н							
>C28-C35	ND	25.0	81							
Surrogate: 1-Chloronetune	89.8			100		89.8	70-130			•
urrogate: o-Teuphenyl	50.0		4	\$0.0		100	70-130			
.CS (P7B1403-BS1)				Prepared &	Analyzed	1: 02/10/17				
C6-C12	806	25.0	mg/kg wet	1000	•	80.6	75-125			
-C12-C28	858	25.0		1000		85.8	75-125			
Surrogate: 1-Chlorooctane	114		н. Н	100		114	70-130			
Surrogate: o-Terphenyl	46.8		"	50,0		93.5	70-130			
LCS Dup (P7B1403-BSD1)				Prepared &	Analyzed	1: 02/10/17				
26-C12	793	25.0	mg/kg wet	1000		79.3	75-125	1.67	20	
·C12-C28	784	25.0	"	1000		78.4	75-125	9.09	20	
urrogate: 1-Chlorooctane	105			ïoo		105	70-130			
karogato: o-Terphenyl	40.8		и	\$0.0		81.5	76-130			
Matrix Spike (P7B1403-MS1)	Sour	ce: 7B10002	-18	Prepared:	02/10/17 /	Analyzed: 02	2/11/17			
C6-C)2	846	26.3	mg/kg dry	1050	ND	80.3	75-125			
C12-C28	889	26.3	4.	1050	ND	84.5	75-125			
Surrogate: 1-Chlorooctane	130		н	105		123	70-130			
Surrogate: o-Terphanyl	54.5		ħ	52.6		104	70-130			
Matrix Spike Dup (P7B1403-MSD1)	Sour	ce: 7B10002	-18	Prepared:	02/30/17	Analyzed: 0	2/11/17			
C6-C12	854	26.3	mg/kg dry	1050	ND	81.1	75-125	0.921	20	
·C12-C28	872	26,3	~	1050	ND	82.9	75-125	1.90	20	
Surrogate: 1-Chlorooctane	120		u	105		114	70-130			
Surrogate: o-Terphenyl	56.1		"	\$2.6		107	70-130			

Permian Basin Environmental Lab, L.P.

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Project: Epperson Site 2 Project Number: 16-0120-02 Project Manager: Mark Larson

## Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

#### Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC	0.015	RPD Limit	Notes
Analyic	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	inores
Batch P7B1604 - TX 1005		·····					····			
Blank (P7B1604-BLK1)				Prepared &	Analyzed:	02/15/17	-	·		
C6-C12	ND	25.0	ing/kg wet							
>C12-C28	NÐ	25.0								
>C28-C35	ND	25.0	Ð							
Surrogate: 1-Chlorooctane	79.6	· ····································	и	100		79.6	70-130			
Surrogate: o-Terphonyl	44.8		48	50.0		89.7	70-130			
LCS (P7B1604-BS1)				Prepared &	Analyzed:	02/15/17				
	1110	25.0	mg/kg wet	1000		11)	75-125			
>C12-C28	1060	25.0	16	1000		106	75-125			
Surrogate: 1-Chlorooctuna	105		N	100		105	70-130			
Surrogate: o-Terphenyl	48.5		"	\$0.0		97.0	70-130			
LCS Dup (P7B1604-BSD1)				Prepared 8	Analyzed	: 02/15/17				
C6-C12	1110	25.0	mg/kg wet	1000		m	75-125	0.465	20	
>C12-C28	1060	25.0	11	1000		106	75-125	0.339	20	
Surrogate: 1-Chlorooctane	97.9		a .	100		97.9	70-130			
Surrogate: o-Terphenyl	45.2		0	50.0		90.3	<b>70-13</b> 0			
Duplicate (P7B1604-DUP1)	Sou	rce: 7B10002	1-13	Prepared &	& Analyzed	: 02/15/17				
C6-C12	ND	25.3	mg/kg dry		ND				20	
>C12-C28	ND	25.3	v		ND				20	
Surragate: 1-Chlorooctane	96.3		*2	101		95.3	70-130			
Surrogate: o-Tarphenyl	54.2		н	50.5		107	70-130			

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Larson & Associates, Inc.	Project: Epperson Site	2 Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0120-02	
Midland TX, 79710	Project Manager: Mark Larson	

#### Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
đry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Centrol Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:

Date: \_\_\_\_\_5/16/2017\_\_\_\_

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Page 27 of 29

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