# **APPROVED** By Olivia Yu at 10:46 am, May 03, 2017

NMOCD approves 1RP-4532 for closure, given the provided additional information.

1RP-4532

# ADDENDUM DELINEATION REPORT Eunice South Justice 4 Inch Down Leg Lea County, New Mexico

Latitude: 32° 07'' 09.6600" North Longitude: 103° 07' 27.7680" West

LAI Project No. 17-0121-01

April 11, 2017

Prepared for:

Targa Midstream Services, LLC P.O. Box 1909 Eunice, New Mexico 88231

Prepared by:

Larson & Associates, Inc. 507 North Marienfeld Street, Suite 205 Midland, Texas 79701

Mark J. Larson, P.G.

Certified Professional Geologist #10490

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1RP-4532 Addendum Delineation Report Eunice South Justice 4 Inch Down Leg Lea County, New Mexico April 11, 2017

# **1.0 INTRODUCTION**

Larson & Associates, Inc. (LAI) submits this addendum delineation report to the New Mexico Oil Conservation Division (OCD) District 1 on behalf of Targa Midstream Services, LLC (Targa) for a natural gas liquids (NGL) release from a down leg on the Eunice South Justice 4 Inch Pipeline (Site) located in Unit E (SW/4, NW/4), Section 24, Township 25 South, Range 37 East, in Lea County, New Mexico. The Site is located about 3 miles east of Jal, New Mexico. The release occurred near the northwest corner of the pad for the Legacy Reserves Operating, LP, South Justice Unit Well #E202 (API #30-025-31759). The release was discovered on December 18, 2016 and was reported to the New Mexico Oil Conservation Division (OCD) District 1, on the same day.

On December 18, 2016, Targa personnel responded to the release and replaced the down leg. Targa personnel estimated that approximately ten (10) barrels (bbl) of liquid was released with no liquid recovered. The leak caused NGL to accumulate on the ground around the down leg and covered an area approximately 10 x 20 feet or about 200 square feet. Wind dispersed NGL south and covered the west side of the well pad over an area measuring about 50 x 100 feet or about 5,000 square feet. Targa personnel replaced the down leg and initiated cleanup. Verbal notification was provided to the New Mexico Oil Conservation Division (OCD) District 1 (Mark Whitaker) on December 19, 2016. The initial C-141 was submitted on December 20, 2016. The OCD assigned the release remediation permit number 1RP-4532. Cleanup was performed between December 19, 2016 and January 4, 2017. The geodetic position is 32° 07′′ 09.6600″ North and 103° 07' 27.7680″ West. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

### 1.1 Physical Setting

The physical setting is as follows:

- The surface elevation is about 3,084 feet above mean sea level (MSL);
- The topography slopes gently to the south and southeast;
- No surface water features are present within 1 mile of the Site;
- The surface soil is designated "Simona-Upton association", consisting of about 8 inches of gravelly fine sandy loam, underlain by approximately 8 inches of fine sandy loam overlying caliche;
- The soil is derived from reworking the Blackwater Draw (Pleistocene) and Ogallala (Pliocene) formations, in descending order;
- Groundwater occurs at about 70 feet below ground surface (bgs) according to records from the New Mexico Office of the State Engineer (NMOSE) and U.S. Geological Survey;
- The nearest fresh water well is located in Unit P (SE/4, SE/4), Section 14, Township 25 South, Range 37 East about 0.25 miles northwest (up gradient).

#### **1.2** Recommended Remediation Action Levels

Recommended remediation action levels (RRALs) were calculated for benzene, total BTEX (benzene, ethylbenzene, toluene and xylenes) and total petroleum hydrocarbons (TPH) based on the following

1RP-4532 Addendum Delineation Report Eunice South Justice 4 Inch Down Leg Lea County, New Mexico April 11, 2017 criteria established by the New Mexico Oil Conservation Division (OCD) in *"Guidelines for Remediation of* 

Leaks, Spills and Releases, August 13, 1993":

Criteria	Result	Score
Depth-to-Groundwater	50 - 99 feet	10
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0

The following RRAL apply to the release for ranking score: 10

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 1,000 mg/Kg

# 2.0 **REMEDIATION**

Between December 19, 2016 and January 4, 2017, Targa personnel supervised excavation of soil from around the down leg and the spray area south of the Site. Soil was excavated from an area around the down leg measuring approximately 10 x 20 feet to about 4 feet below ground surface (bgs). Soil was excavated from the spray area to about 1 foot bgs. Approximately 308 cubic yards of contaminated soil was hauled and disposed at Sundance Services, Inc., between December 19, 2016 and January 4, 2017.

On January 3, 2017, Targa personnel collected delineation soil samples from near the center of the sidewalls and bottom near the center of the excavation. The sidewall samples were collected about 3 feet bgs whereas the bottom sample was collected at about 4 feet bgs. The samples were delivered to Cardinal Laboratories in Hobbs, New Mexico, which analyzed the samples for total petroleum hydrocarbons (TPH), including gasoline range organics (C6 – C10) and diesel range organics (>C10 – C28) by EPA SW-846 Method 8015M and chloride by Method SM4500ClB. The in-situ TPH concentrations are below the method reporting limit (RL) and RRAL in all samples. The in-situ chloride concentrations are below the OCD delineation limit of 250 mg/Kg in the sidewall samples. The in-situ chloride concentration in the bottom sample at about 4 feet bgs is 304 mg/Kg and above the OCD delineation limit of 250 mg/Kg. On January 6, 2017, Targa personnel used a backhoe to collect another bottom sample near the center of the excavation at about 5 feet bgs to delineate the chloride. Cardinal Laboratories reported chloride at 48.0 mg/Kg and below the OCD delineation limit. Table 1 presents the analytical data summary. Figure 2a presents a focused aerial photograph and approximate location of the excavation and soil samples.

On March 16, 2017, LAI personnel attended at meeting with OCD District 1 Environmental Specialist, Olivia Yu, to present a delineation report for the release. On March 17, 2017, OCD responded to the delineation report and requested collection and analysis of confirmation soil samples from a depth of 2 feet in 4 cardinal directions (north, south, east and west) from the overspray area and a background sample from the pasture located north of the release location. Appendix A presents OCD correspondence.

1RP-4532 Addendum Delineation Report Eunice South Justice 4 Inch Down Leg Lea County, New Mexico April 11, 2017

# 3.0 CONFIRMATION SOIL SAMPLES

On March 22, 2017 and April 4, 2017, LAI personnel collected confirmation soil samples from four (4) locations in four (4) cardinal directions from the overspray area and a background sample from the pasture about 200 feet northeast from the location. The samples were collected using direct push technology (DPT) from two (2) feet bgs. The samples were collected in laboratory containers that were delivered under preservation and chain of custody to Permian Basin Environmental Laboratory (PBEL) in Midland, Texas, and were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA SW-846 Method 8021B, total petroleum hydrocarbons (TPH) including gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) by Method 8015 and chloride by Method 300. Table 2 presents the confirmation soil sample analytical data summary. Figure 3 presents a Site drawing and soil sample locations. Appendix B presents the laboratory report.

BTEX was below the method reporting limit in the background and confirmation samples. TPH was below the method reporting limit in all samples except sample S-1 collected near the south end of the overspray area. TPH was reported at 244.08 milligrams per kilogram (mg/Kg) in sample S-1 and below the RRAL. Chloride was 948 mg/kg in sample S-1 and below 250 mg/Kg in the remaining samples. The TPH and chloride concentrations reported in sample S-1 suggest an existing impact since the overspray was natural gas liquid. The background chloride concentration was less than the method reporting limit.

# 4.0 CONCLUSION

Targa has delineated and remediated the release according to the RRAL.

# 5.0 **RECOMMENDATION**

The excavation was backfilled with clean soil with approval from OCD on January 26, 2017. Targa requests no further action for RP1-4532. Appendix C presents the initial and final C-141.

TABLES

Table 1

# **Delineation Soil Sample Analytical Data Summary** 1RP-4532

# Targa Midstream Services, LLC, South Justice Pipeline Release

Lea County, New Mexico

					in the second					T IO T ABEA
Sample	Collection	Location	Depth	Benzene	втех	C6 - C10	>C10 - C28	>C28 - C35	HdT	Chloride
	Date		(Feet)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
OCD RRAL:									1,000	*250
				Main	Main Excavation					
North	1/3/2017	North	3	1	I	<10.0	<10.0	I	<10.0	32
South	1/3/2017	South	3	I	I	<10.0	<10.0	I	<10.0	96.0
East	1/3/2017	East	3	I	I	<10.0	<10.0	I	<10.0	240
West	1/3/2017	West	3	I	I	<10.0	<10.0	I	<10.0	176
Bottom	1/3/2017 1/6/2017	Bottom Bottom	4 5	1 1	1 1	<10.0	23.3 	1 1	23.2 	304 48
				Spray Area	Area					
**S-1	3/22/2017	South	2	<0.00111	<0.05107	<27.778	182.41	61.667	244.08	948
**S-2	4/4/2017	West	2	<0.00109	<0.00761	<27.174	<27.174	<27.174	<27.174	169
**S-3	3/22/2017	North	2	<0.00105	<0.01576	<26.316	<26.316	<26.316	<26.316	45.9
**S-4	3/22/2017	East	2	<0.00109	<0.01634	<27.174	<27.174	<27.174	<27.174	25.9
\$**S-BG	3/22/2017	Background	2	<0.0011	<0.0165	<27.473	<27.473	<27.473	<27.473	<0.10
Notes: Labo	ratory analysi	Notes: Laboratory analysis performed by Cardinal Laboratories, Hobbs, New Mexico for TPH (GRO and DRO) by EPA SW-846 Method 8015M	y Cardinal Lal	boratories, Hc	obbs, New Me	xico for TPH (	GRO and DRO	) by EPA SW-8	346 Method 8	015M

and chloride by Method SM4500Cl-b.

\*\*: Denotes analysis performed by Permian Basin Environmental Lab, Midland, Texas, for TPH (GRO, DRO and ORO) by EPA SW-846 Method 8015M and chloride by EPA Method 300

Depth in feet below ground surface (bgs)

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

Page 1 of 1

FIGURES



Figure 1 - Topographic Map



Figure 2 - Aerial Map





APPENDIX A

**OCD Correspondence** 

#### Mark Larson

From: Sent:	Yu, Olivia, EMNRD [Olivia.Yu@state.nm.us] Friday, March 17, 2017 1:24 PM
To:	Mark Larson
Cc:	'Wrangham, Calvin W.'; 'Woodell, Rebecca F.'; Oberding, Tomas, EMNRD
Subject:	RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Dear Mr. Larson:

Due to the fact that the conditions of approval attached to the reviewed initial C-141 were not complied with and that depth to groundwater is at 68 ft., NMOCD requests that for confirmation

1. 4 soil samples, in the 4 cardinal directions, be collected in the overspray area at a depth of 2 ft;

2. a 6" depth background sample north of the release location on the pasture.

Laboratory analyses for Benzene, BTEX, TPH, and chlorides are required. Please confirm.

Thanks, Olivia

From: Mark Larson [mailto:Mark@laenvironmental.com] Sent: Friday, March 17, 2017 6:59 AM

To: Yu, Olivia, EMNRD < Olivia.Yu@state.nm.us>

Cc: 'Wrangham, Calvin W.' <CalvinWrangham@targaresources.com>; 'Woodell, Rebecca F.' <RebeccaWoodell@targaresources.com> Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Olivia,

Thank you for meeting with me yesterday to discuss the delineation and remediation for 1RP-4532. The surface ownership is private (Legacy). Please find the final C-141 attached. Please contact Cal Wrangham with Targa Resources at (432) 688-0542 or <u>CalvinWrangham@targaresources.com</u> or me if you have questions. Respectfully,

Mark J. Larson, P.G. President/Sr. Project Manager 507 N. Marienfeld St., Suite 205 Midland, Texas 79701 Office – 432-687-0901 Cell – 432-556-8656 Fax – 432-687-0456 mark@laenvironmental.com

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From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us] Sent: Thursday, March 09, 2017 11:23 AM To: Mark Larson Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Confirmed. 3pm MST, March 16.

From: Mark Larson [mailto:Mark@laenvironmental.com] Sent: Thursday, March 9, 2017 10:11 AM To: Yu, Olivia, EMNRD <<u>Olivia.Yu@state.nm.us</u>> Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

#### 3pm Mountain Time?

From: Yu, Olivia, EMNRD [<u>mailto:Olivia.Yu@state.nm.us</u>] Sent: Thursday, March 09, 2017 10:29 AM To: Mark Larson Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Mr. Larson:

Are you available for a meeting at 3 pm, March 16, 2017?

Olivia

 From: Mark Larson [mailto:Mark@laenvironmental.com]

 Sent: Wednesday, March 8, 2017 11:17 AM

 To: Yu, Olivia, EMNRD <<u>Olivia.Yu@state.nm.us</u>>

 Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Okay! How about next week, Thursday?

From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us] Sent: Wednesday, March 08, 2017 12:16 PM To: Mark Larson Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

No. On my way to Artesia now.

From: Mark Larson [mailto:Mark@laenvironmental.com] Sent: Wednesday, March 8, 2017 10:04 AM To: Yu, Olivia, EMNRD <<u>Olivia.Yu@state.nm.us</u>> Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Would you be available this afternoon since I will be traveling on Friday?

From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us] Sent: Wednesday, March 08, 2017 9:52 AM To: Mark Larson Cc: Wrangham, Calvin W.'; 'Woodell, Rebecca F.' Subject: RE: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Good morning Mr. Larson:

I am not available tomorrow. How about Friday, March 10 in the afternoon?

Olivia

 From: Mark Larson [mailto:Mark@laenvironmental.com]

 Sent: Wednesday, March 8, 2017 7:44 AM

 To: Yu, Olivia, EMNRD <<u>Olivia.Yu@state.nm.us</u>>

 Cc: 'Wrangham, Calvin W. '<<u>CalvinWrangham@targaresources.com</u>>; 'Woodell, Rebecca F.'<<u>RebeccaWoodell@targaresources.com</u>>; Subject: Re: 1RP-4532, Targa Eunice South Justice 4" Down Leg Delineation Report

Hello Olivia,

I am following on our previous conversation and to inquire of your availability to meet on Thursday, March 9, 2017, at your office for the purpose of going over the delineation report for RP-4532. Please let me know of your availability and what time would be convenient for you. Respectfully,

2

Mark J. Larson, P.G. President/Sr. Project Manager 507 N. Marienfeld St., Suite 205 Midland, Texas 79701 (432) 687-0901 ( 0 ) (432) 556-8656 ( C )

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APPENDIX B

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: Targa South Justis Pipeline Project Number: 17-0121-01 Location:

Lab Order Number: 7C22014



NELAP/TCEQ # T104704156-16-6

Report Date: 04/05/17

Larson & Associates, Inc.	Project: Targa	South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-01	21-01	
Midland TX, 79710	Project Manager: Mark	Larson	

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1 2ft	7C22014-01	Soil	03/22/17 10:30	03-22-2017 15:12
S-3 2ft	7C22014-03	Soil	03/22/17 10:50	03-22-2017 15:12
S-4 2ft	7C22014-05	Soil	03/22/17 11:00	03-22-2017 15:12
S-BG 2ft	7C22014-06	Soil	03/22/17 11:15	03-22-2017 15:12
S-2 2 ft	71004009-01	Soil	04/04/17 12:10	04-04-2017 14:57

#### S-1 2ft 7C22014-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Peri	nian Basin F	Invironme	ntal Lab,	L.P.				
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P7C2405	03/23/17	03/31/17	EPA 8021B	
Toluene	ND	0.0111	mg/kg dry	1	P7C2405	03/23/17	03/31/17	EPA 8021B	
Ethylbenzene	ND	0.00556	mg/kg dry	1	P7C2405	03/23/17	03/31/17	EPA 8021B	
Xylene (p/m)	ND	0.0222	mg/kg dry	1	P7C2405	03/23/17	03/31/17	EPA 8021B	
Xylene (0)	ND	0.0111	mg/kg dry	1	P7C2405	03/23/17	03/31/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.0 %	75-1	25	P7C2405	03/23/17	03/31/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.2 %	75-1	25	P7C2405	03/23/17	03/31/17	EPA 8021B	
C6-C12	ND	27.778	mg/kg dry	1	P7C2805	03/23/17	03/25/17	TX 1005	
>C12-C28	182.41	27.778	mg/kg dry	1	P7C2805	03/23/17	03/25/17	TX 1005	
>C28-C35	61.667	27.778	mg/kg dry	1	P7C2805	03/23/17	03/25/17	TX 1005	
Surrogate: 1-Chlorooctane		91.1 %	70-1	30	P7C2805	03/23/17	03/25/17	TX 1005	
Surrogate: o-Terphenyl		98.9 %	70-1	30	P7C2805	03/23/17	03/25/17	TX 1005	
Total Hydrocarbon nC6-nC35	244.08	27.778	mg/kg dry	١	[CALC]	03/23/17	03/25/17	[CALC]	
General Chemistry Parameters by El	PA / Standard Method	ds							
Chloride	948	1.11	mg/kg dry	I	P7C2403	03/24/17	03/27/17	EPA 300.0	
% Moisture	10.0	0.1	%	1	P7C2312	03/23/17	03/23/17	% calculation	

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc. P.O. Box 50685	es, Inc. Project: Targa South Justis Pipeline Project Number: 17-0121-01								
Midland TX, 79710		Project Manager: Mark Larson							
			S-3 2ft						
		7C22	014-03 (Soi	l)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perr	nian Basin E	Invironmer	ital Lab, I	L.P.				
Organics by GC									
Benzene	ND	0.00105	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	I.	P7C2405	03/23/17	03/23/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	I	P7C2405	03/23/17	03/23/17	EPA 8021B	
Xylene (p/m)	ND	0.0105	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Xylene (0)	ND	0.00105	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.5 %	75-1	25	P7C2405	03/23/17	03/23/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.0 %	75-1	25	P7C2405	03/23/17	03/23/17	EPA 8021B	
C6-C12	ND	26.316	mg/kg dry	}	P7C2807	03/23/17	03/27/17	TX 1005	
>C12-C28	ND	26.316	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TX 1005	
>C28-C35	ND	26.316	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TX 1005	
Surrogate: 1-Chlorooctane		76.9 %	70-1	30	P7C2807	03/23/17	03/27/17	TX 1005	
Surrogate: o-Terphenyl		96.8 %	70-1	30	P7C2807	03/23/17	03/27/17	TX 1005	
Total Hydrocarbon nC6-nC35	ND	26.316	mg/kg dry	1	[CALC]	03/23/17	03/27/17	[CALC]	
General Chemistry Parameters by El	PA / Standard Methoc	ls							
Chloride	45.9	1.05	mg/kg dry	I	P7C2403	03/24/17	03/27/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7C2312	03/23/17	03/23/17	% calculation	

Larson & Associates, Inc. P.O. Box 50685	Project: Targa South Justis Pipeline Project Number: 17-0121-01								
Midland TX, 79710		Project Manaj							
			S-4 2ft						
		7C22	014-05 (Sol	l)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
	Perr	nian Basin F	Invironmen	ital Lab, I	L <b>.P.</b>				
Organics by GC	· · · · ·								
Benzene	ND	0.00109	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	ł	P7C2405	03/23/17	03/23/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Xylene (p/m)	ND	0.0109	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.4 %	75-1	25	P7C2405	03/23/17	03/23/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.5 %	75-1	25	P7C2405	03/23/17	03/23/17	EPA 8021B	
C6-C12	ND	27.174	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TX 1005	
>C12-C28	ND	27,174	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TX 1005	
>C28-C35	ND	27.174	mg/kg dry	1	P7C2807	03/23/17	03/27/17	TX 1005	
Surrogate: 1-Chlorooctane	····· · · · · · · · · · · · · · · · ·	81.5 %	70-1	30	P7C2807	03/23/17	03/27/17	TX 1005	
Surrogate: o-Terphenyl		97.8 %	70-1	30	P7C2807	03/23/17	03/27/17	TX 1005	
Total Hydrocarbon nC6-nC35	ND	27.174	mg/kg dry	1	[CALC]	03/23/17	03/27/17	[CALC]	
General Chemistry Parameters by E	PA / Standard Method	ds							
Chloride	25.9	1.09	mg/kg dry	1	P7C2403	03/24/17	03/27/17	EPA 300.0	
% Moisture	8.0	0.1	%	I	P7C2312	03/23/17	03/23/17	% calculation	

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Proje Project Numl Project Manaj		-01	Pipeline			Fax: (432) 687-04:	56
			-BG 2ft 014-06 (Soi	1)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perr	nian Basin E	nvironmen	tal Lab, I	L. <b>P.</b>				
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	I	P7C2405	03/23/17	03/23/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Xylene (p/m)	ND	0.0110	mg/kg dry	۱	P7C2405	03/23/17	03/23/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7C2405	03/23/17	03/23/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.0 %	75-1	25	P7C2405	03/23/17	03/23/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.0 %	75-1	25	P7C2405	03/23/17	03/23/17	EPA 8021B	
C6-C12	ND	27.473	mg/kg dry	1	P7C2810	03/27/17	03/27/17	TX 1005	
>C12-C28	ND	27.473	mg/kg dry	1	P7C2810	03/27/17	03/27/17	TX 1005	
>C28-C35	ND	27.473	mg/kg dry	ł	P7C2810	03/27/17	03/27/17	TX 1005	
Surrogate: 1-Chlorooctane		89.8 %	70-1	30	P7C2810	03/27/17	03/27/17	TX 1005	
Surrogate: o-Terphenyl		92.1 %	70-1	30	P7C2810	03/27/17	03/27/17	TX 1005	
Total Hydrocarbon nC6-nC35	ND	27.473	mg/kg dry	1	[CALC]	03/27/17	03/27/17	[CALC]	
General Chemistry Parameters by E	PA / Standard Metho	<u>ls</u>							
Chloride	ND	1.10	mg/kg dry	1	P7C2403	03/24/17	03/27/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7C2312	03/23/17	03/23/17	% calculation	

Larson & Associates, Inc.		Proj	ect: Targa Se	outh Justis	Pipeline			Fax: (432) 68	7-0456
P.O. Box 50685		Project Numb	•						
Midland TX, 79710		Project Manag							
			,						
			8-2 2 ft						
		7D04	009-01 (Soi	l)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
Анаус	Kesun		Omes	Difficient	Daten	Trepared			
	Peri	nian Basin E	nvironmen	ital Lab, I	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P7D0502	04/04/17	04/04/17	EPA 8021B	
Foluene	ND	0.00217	mg/kg dry	1	P7D0502	04/04/17	04/04/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7D0502	04/04/17	04/04/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	l	P7D0502	04/04/17	04/04/17	EPA 8021B	
Xylene (0)	ND	0.00109	mg/kg dry	1	P7D0502	04/04/17	04/04/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.1 %	75-1	25	P7D0502	04/04/17	04/04/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-1	25	P7D0502	04/04/17	04/04/17	EPA 8021B	
C6-C12	ND	27.174	mg/kg dry	1	P7D0505	04/04/17	04/04/17	TX 1005	
>C12-C28	ND	27.174	mg/kg dry	L	P7D0505	04/04/17	04/04/17	TX 1005	
>C28-C35	ND	27.174	mg/kg dry	1	P7D0505	04/04/17	04/04/17	TX 1005	
Surrogate: 1-Chlorooctane		108 %	70-1	30	P7D0505	04/04/17	04/04/17	TX 1005	
Surrogate: o-Terphenyl		108 %	70-1	30	P7D0505	04/04/17	04/04/17	TX 1005	
Total Hydrocarbon nC6-nC35	ND	27.174	mg/kg dry	1	[CALC]	04/04/17	04/04/17	[CALC]	
General Chemistry Parameters by EPA / S	tandard Metho	ds							
Chloride	169	1.09	mg/kg dry	1	P7D0506	04/05/17	04/05/17	EPA 300.0	
% Moisture	8.0	0.1	%	J	P7D0501	04/05/17	04/05/17	% calculation	

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:	Mark Larson	

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

	No. 1	Reporting	11-14-	Spike	Source	9/ D E C	%REC	RPD	RPD Limit	Notes
Analyte	Result	Limit	Units	Level	Result	%REC	Limits		Lama	ivoies
Batch P7C2405 - General Preparation (C	GC)									
Blank (P7C2405-BLK1)				Prepared &	Analyzed:	03/23/17				
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	11							
Ethylbenzene	ND	0.00100	11							
Xylene (p/m)	0.00484	0.00200	11							
Xylene (0)	NÐ	0.00100	н							
Surrogate: 1,4-Difluorobenzene	0.0575		"	0.0600		95.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0569		"	0.0600		94.8	75-125			
LCS (P7C2405-BS1)				Prepared &	Analyzed:	03/23/17				
Benzene	0.0802	0.00100	mg/kg wet	0.100		80.2	70-130			
Toluene	0.0802	0.00200		0.100		80.2	70-130			
Ethylbenzene	0.0878	0.00100	н	0.100		87,8	70-130			
Xylene (p/m)	0.152	0.00200	и	0.200		75.9	70-130			
Xylene (o)	0.0811	0.00100		0.100		81.1	70-130			
Surrogate: 1.4-Difluorobenzene	0.0613		'n	0.0600		102	75-125			
Surrogate: 4-Bromofluorobenzene	0.0599		n	0.0600		99.9	75-125			
LCS Dup (P7C2405-BSD1)				Prepared &	Analyzed:	03/23/17				
Benzene	0.0801	0.00100	mg/kg wet	0.100		80.1	70-130	0.112	20	
Toluene	0.0801	0.00200	 U	0.100		80.1	70-130	0.0749	20	
Ethylbenzene	0.0908	0.00100	u.	0.100		90.8	70-130	3.33	20	
Xylene (p/m)	0.151	0.00200	v	0.200		75.4	70-130	0.654	20	
Xylene (0)	0.0828	0.00100	11	0.100		82.8	70-130	2.01	20	
Surrogate: 1.4-Difluorobenzene	0.0615		v	0.0600		103	75-125			
Surrogate: 4-Bromofluorobenzene	0.0629		"	0.0600		105	75-125			
Matrix Spike (P7C2405-MS1)	Sou	irce: 7C22014	1-06	Prepared: (	)3/23/17 A	nalyzed: 0	3/24/17			
Benzene	0.124	0.00110	mg/kg dry	0.110	ND	113	80-120			
Toluene	0.122	0.00220		0.110	ND	111	80-120			
Ethylbenzene	0.129	0.00110		0.110	ND	118	80-120			
Xylene (p/m)	0.218	0.00220	н	0.220	NÐ	99.1	80-120			
Xylene (o)	0.116	0.00110	н	0.110	ND	105	80-120			
Surrogate: 1,4-Difluorobenzene	0.00		 н	0.0659			75-125			QM-0
Surrogate: 4-Bromofluorobenzene	0.0593		"	0.0659		89.9	75-125			-

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:		

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7C2405 - General Preparation (	GC)									
Matrix Spike Dup (P7C2405-MSD1)	Sou	rce: 7C22014	-06	Prepared: 0	)3/23/17 At	alyzed: 03	/24/17			
Benzene	0.0878	0.00110	mg/kg dry	0.110	ND	79.9	80-120	34.1	20	QM-07, R
Toluene	0.0860	0.00220	14	0.110	ND	78.3	80-120	34.9	20	QM-07, R
Ethylbenzene	0.0946	0.00110	н	0.110	ND	86.1	80-120	30.8	20	R
Xylene (p/m)	0.165	0.00220	н	0.220	ND	75.1	80-120	27.5	20	QM-07, R
Xylene (o)	0.0932	0.00110	н	0.110	ND	84.8	80-120	21.7	20	R
Surrogate: 4-Bromofluorobenzene	0.0691		н	0.0659		105	75-125			
Surrogate: 1,4-Difluorobenzene	0.0637		н	0.0659		96.6	75-125			
Batch P7C2805 - TX 1005										
Blank (P7C2805-BLK1)				Prepared: {	)3/23/17 Ai	nalyzed: 03	/25/17			
C6-C12	ND	25.000	mg/kg wet							
>C12-C28	ND	25.000	0							
>C28-C35	ND	25.000	31							
Surrogate: 1-Chlorooctane	73.4		и	100		73.4	70-130			
Surrogate: o-Terphenyl	37.6		<i>u</i>	50.0		75.3	70-130			
LCS (P7C2805-BS1)				Prepared: (	)3/23/17 Ai	nalyzed: 03	/25/17			
C6-C12	1210	25.000	mg/kg wet	1000		121	75-125			
>C12-C28	1030	25.000		1000		103	75-125			
Surrogate: 1-Chlorooctane	78.6		"	100		78.6	70-130			
Surrogate: o-Terphenyl	33.7		н	50.0		67.3	70-130			S-G
LCS Dup (P7C2805-BSD1)				Prepared: (	03/23/17 A	nalyzed: 03	3/25/17	,		
C6-C12	1170	25.000	mg/kg wet	1000		117	75-125	3.21	20	
>C12-C28	1100	25.000	"	1000		110	75-125	6.81	20	
Surrogate: 1-Chlorooctane	88.5		"	100		88.5	70-130			
Surrogate: o-Terphenyl	36.5		"	50.0		73.0	70-130			

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:	Mark Larson	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7C2807 - TX 1005										
Blank (P7C2807-BLK1)				Prepared: (	03/23/17 Ai	nalyzed: 03	/27/17			
C6-C12	ND	25.000	mg/kg wet							
>C12-C28	ND	25.000	11							
>C28-C35	ND	25.000	н							
Surrogate: 1-Chlorooctane	71.7		"	100		71.7	70-130			
Surrogate: o-Terphenyl	40.4		"	50.0		80.9	70-130			
LCS (P7C2807-BS1)				Prepared: (	)3/23/17 A	nalyzed: 03	/27/17			
C6-C12	1080	25.000	mg/kg wet	1000		108	75-125			
>C12-C28	977	25.000	н	1000		97.7	75-125			
Surrogate: 1-Chlorooctane	78.4		a	100		78.4	70-130			
Surrogate: o-Terphenyl	32.9		п	50.0		65.9	70-130			S-GC
LCS Dup (P7C2807-BSD1)				Prepared: (	03/23/17 A	nalyzed: 03	/27/17			
C6-C12	1170	25.000	mg/kg wet	1000		117	75-125	7.84	20	
>C12-C28	1040	25.000	0	1000		104	75-125	6.15	20	
Surrogate: 1-Chlorooctane	78.6		н	100		78.6	70-130			
Surrogate: o-Terphenyl	34.8		u.	50.0		69.6	70-130			<i>S-GC</i>
Matrix Spike (P7C2807-MS1)	Sou	rce: 7C15005	5-61	Prepared: (	03/23/17 A	nalyzed: 03	3/27/17			
C6-C12	1560	29.070	mg/kg dry	1160	27.6	132	75-125			QM-05
>C12-C28	1390	29.070		1160	NÐ	119	75-125			
Surrogate: 1-Chlorooctane	109		11	116		94.0	70-130			
Surrogate: o-Terphenyl	51.2		11	58.1		88.0	70-130			
Matrix Spike Dup (P7C2807-MSD1)	Sou	rce: 7C15005	5-61	Prepared:	03/23/17 A	nalyzed: 03	3/27/17			
C6-C12	1590	29.070	mg/kg dry	1160	27.6	134	75-125	1.85	20	QM-05
>C12-C28	1380	29.070	81	1160	ND	119	75-125	0.0622	20	
Surrogate: 1-Chlorooctane	<i>iii</i>		"	116		95.5	70-130			
Surrogate: o-Terphenyl	52.2		"	58.1		89.8	70-130			

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:	Mark Larson	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
	resut	1.0000	Onto	1.0701	NUSUR	701020	Lannos			
Batch P7C2810 - TX 1005										
Blank (P7C2810-BLK1)				Prepared &	Analyzed:	03/27/17				
C6-C12	ND	25.000	mg/kg wet							
>C12-C28	ND	25.000								
>C28-C35	ND	25.000	10							
Surrogate: 1-Chlorooctane	69.5		и	100		69.5	70-130			S-G
Surrogate: o-Terphenyl	37.1		и	50.0		74.2	70-130			
LCS (P7C2810-BS1)				Prepared &	Ł Analyzed:	03/27/17				
C6-C12	864	25.000	mg/kg wet	1000		86.4	75-125			
>C12-C28	811	25.000	н	1000		81.1	75-125			
Surrogate: 1-Chlorooctane	78.5		n	100		78.5	70-130			
Surrogate: o-Terphenyl	38.4		н	50.0		76.7	70-130			
LCS Dup (P7C2810-BSD1)				Prepared &	k Analyzed:	03/27/17				
C6-C12	894	25.000	mg/kg wet	1000		89.4	75-125	3.40	20	
>C12-C28	802	25.000	11	1000		80.2	75-125	1.21	20	
Surrogate: 1-Chlorooctane	77.0		и	100		77.0	70-130			
Surrogate: o-Terphenyl	37.8		u	50.0		75.6	70-130			
Matrix Spike (P7C2810-MS1)	Sou	rce: 7C23002	2-14	Prepared:	03/27/17 A	nalyzed: 03	3/28/17			
C6-C12	858	25.510	mg/kg dry	1020	30.2	81.1	75-125			
>C12-C28	890	25.510	н	1020	ND	87.2	75-125			
Surrogate: 1-Chlorooctane	95.4		R	102		93.5	70-130			
Surrogate: o-Terphenyl	45.7		"	51.0		89.5	70-130			
Matrix Spike Dup (P7C2810-MSD1)	Sou	rce: 7C2300	2-14	Prepared:	03/27/17 A	nalyzed: 03	3/28/17			
C6-C12	895	25.510	mg/kg dry	1020	30.2	84.8	75-125	4.42	20	
>C12-C28	921	25.510	11	1020	ND	90.2	75-125	3.42	20	
Surrogate: 1-Chlorooctane	99.4			102		97.4	70-130			
Surrogate: o-Terphenyl	53.7		"	51.0		105	70-130			

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:	Mark Larson	

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

A	Dam 3t	Reporting	1 10 160	Spike	Source	0/DEC	%REC	0.00	RPD Limit	Natas
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P7D0502 - General Preparatio	n (GC)									
Blank (P7D0502-BLK1)				Prepared &	Analyzed:	04/04/17				
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	**							
Ethylbenzene	ND	0.00100	11							
Xylene (p/m)	ND	0.00200								
Xylene (o)	ND	0.00100	a							
Surrogate: 4-Bromofluorobenzene	0.0488		4	0.0600		81.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.0549		"	0.0600		91.4	75-125			
LCS (P7D0502-BS1)				Prepared &	Analyzed:	04/04/17				
Benzene	0.107	0.00100	mg/kg wet	0.100		107	70-130			
Toluene	0.0867	0.00200	н	0.100		86.7	70-130			
Ethylbenzene	0.0854	0.00100	8	0.100		85.4	70-130			
Xylene (p/m)	0.177	0.00200	н	0.200		88.6	70-130			
Xylene (o)	0.0813	0.00100	н	0.100		81.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.0559		"	0.0600		93.2	75-125			
Surrogate: 1,4-Difluorobenzene	0.0605		u	0.0600		101	75-125			
LCS Dup (P7D0502-BSD1)				Prepared &	: Analyzed:	04/04/17				
Benzene	0.105	0.00100	mg/kg wet	0.100		105	70-130	1.40	20	
Toluenc	0.0864	0.00200		0.100		86.4	70-130	0.347	20	
Ethylbenzene	0.0856	0.00100	n	0.100		85.6	70-130	0.257	20	
Xylenc (p/m)	0.177	0.00200	11	0.200		88.5	70-130	0.147	20	
Xylene (0)	0.0851	0.00100	18	0.100		85.1	70-130	4.57	20	
Surrogate: 1.4-Difluorobenzene	0.0598		н	0.0600		99.6	75-125			
Surrogate: 4-Bromofluorobenzene	0.0573		"	0.0600		95.6	75-125			
Matrix Spike (P7D0502-MS1)	Sou	irce: 7D04009	-01	Prepared: (	)4/04/17 A	nalyzed: 04	/05/17			
Benzenc	0.0668	0.00109	mg/kg dry	0.109	ND	61.4	80-120			QM-0
Toluene	0.0597	0.00217	н	0.109	ND	54.9	80-120			QM-0
Ethylbenzene	0.0540	0.00109		0.109	ND	49.6	80-120			QM-0
Xylenc (p/m)	0.109	0.00217		0.217	ND	50.3	80-120			QM-0
Xylene (0)	0.0506	0.00109		0.109	ND	46.5	80-120			QM-0
Surrogate: 4-Bromofluorobenzene	0.0591		"	0.0652		90.6	75-125			
Surrogate: 1,4-Difluorobenzene	0.0625		4	0.0652		95.8	75-125			

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-0)	
Midland TX, 79710	Project Manager:	Mark Larson	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
			51110							
Batch P7D0502 - General Preparation (GC)	·····	<del>, , , , , , , , , , , , , , , , , , , </del>								
Matrix Spike Dup (P7D0502-MSD1)	Sou	rce: 7D04009	-01	·····	04/04/17 An		/05/17			
Benzene	0.121	0.00109	mg/kg dry	0.109	ND	112	80-120	58.0	20	QM-0
Toluene	0.110	0.00217	0	0.109	ND	101	80-120	59.0	20	QM-0
Ethylbenzene	0.0960	0.00109	Ð	0.109	ND	88.3	80-120	56.0	20	QM-0
Xylene (p/m)	0.195	0.00217	14	0.217	ND	89.9	80-120	56.5	20	QM-0
Xylene (o)	0.0916	0.00109	14	0.109	ND	84.2	80-120	57.6	20	QM-0
Surrogate: 1,4-Difluorobenzene	0.0635		и	0.0652		97.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.0568		n	0.0652		87.1	75-125			
Batch P7D0505 - TX 1005										
Blank (P7D0505-BLK1)				Prepared &	& Analyzed:	04/04/17				
C6-C12	ND	25.000	mg/kg wet							
>C12-C28	ND	25.000	n							
>C28-C35	ND	25.000	н							
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	51.0		n	50.0		102	70-130			
LCS (P7D0505-BS1)				Prepared &	& Analyzed:	04/04/17				
C6-C12	970	25.000	mg/kg wet	1000		97.0	75-125			
>C12-C28	871	25.000	н	1000		87.1	75-125			
Surrogate: 1-Chlorooctane	104	.,	H	100		104	70-130			
Surrogate: o-Terphenyl	47.0		н	50.0		94.0	70-130			
LCS Dup (P7D0505-BSD1)				Prepared &	& Analyzed:	04/04/17				
C6-C12	971	25.000	mg/kg wet	1000		97.1	75-125	0.0691	20	
>C12-C28	903	25.000		1000		90.3	75-125	3.62	20	
Surrogate: 1-Chlorooctane	106		"	100		106	70-130			
Surrogate: o-Terphenyl	47.0		"	50.0		94.0	70-130			

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc.	Project: Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 17-0121-01	
Midland TX, 79710	Project Manager: Mark Larson	

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P7D0505 - TX 1005							, <u> </u>			
Matrix Spike (P7D0505-MS1)	Sour	ce: 7D04009	-01	Prepared: (	04/04/17 A	nalyzed: 04	/05/17			
C6-C12	956	27.174	mg/kg dry	1090	16.7	86.5	75-125			
>C12-C28	876	27.174	н	1090	17.4	79.0	75-125			
Surrogate: 1-Chlorooctane	106		н	109		97.8	70-130			
Surrogate: o-Terphenyl	49.1		"	54.3		90.3	70-130			
Matrix Spike Dup (P7D0505-MSD1)	Sour	ce: 7D04009	-01	Prepared: (	04/04/17 A	nalyzed: 04	/05/17			
C6-C12	987	27.174	mg/kg dry	1090	16.7	89.3	75-125	3.21	20	
>C12-C28	912	27,174	ы	1090	17.4	82.3	75-125	4.11	20	
Surrogate: 1-Chlorooctane	110		и	109		101	70-130			
Surrogate: o-Terphenyl	50.6		"	54.3		93,1	70-130			

ſ	Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
	P.O. Box 50685	Project Number:	17-0121-01	
	Midland TX, 79710	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	RPD Limit	Notes
Batch P7C2312 - *** DEFAULT PREP ***										
Blank (P7C2312-BLK1)				Prepared &	Analyzed:	: 03/23/17				
% Moisture	ND	0.1	%							
Duplicate (P7C2312-DUP1)	Sou	rce: 7C23002-	17	Prepared &	Analyzed:	: 03/23/17				
% Moisture	2.0	0.1	%		2.0			0.00	20	
Duplicate (P7C2312-DUP2)	Sou	rce: 7C23006-	-03	Prepared &	Analyzed:	: 03/23/17				
% Moisture	9.0	0.1	%		8.0			11.8	20	
Batch P7C2403 - *** DEFAULT PREP ***										
Blank (P7C2403-BLK1)				Prepared: (	03/24/17 A	nalyzed: 03	3/27/17			
Chloride	ND	1.00	mg/kg wet							
LCS (P7C2403-BS1)				Prepared: (	)3/24/17 A	nalyzed: 03	3/27/17			
Chloride	423	1.00	mg/kg wet	400		106	80-120			
.CS Dup (P7C2403-BSD1)				Prepared: (	)3/24/17 A	nalyzed: 03	3/27/17			
Chloride	413	1.00	mg/kg wet	400		103	80-120	2.40	20	
Duplicate (P7C2403-DUP1)	Sou	rce: 7C22014-	-04	Prepared: (	)3/24/17 A	nalyzed: 03	3/27/17			
Chloride	3650	and the second second second	mg/kg dry	· · · · · · · · · · · · · · · · · · ·	3670			0.478	20	
Duplicate (P7C2403-DUP2)	Sou	rce: 7C23002-	-10	Prepared: (	03/24/17 A	nalyzed: 03	3/27/17			
Chloride	7760	25.5	mg/kg dry		8190			5.28	20	
Matrix Spike (P7C2403-MS1)	Sou	rce: 7C22014	-04	Prepared: (	03/24/17 A	nałyzed: 03	3/27/17			
Chloride	4630	10.9	mg/kg dry	1090	3670	87.8	80-120			

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:	Mark Larson	
L	General Chemistry Parameters by EPA	/ Standard Methods - Qua	lity Control

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

					•					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7D0501 - *** DEFAULT PREP ***										
Blank (P7D0501-BLK1)				Prepared 8	k Analyzed:	04/05/17				
% Moisture	ND	0.1	%							
Duplicate (P7D0501-DUP1)	Sou	rce: 7D04009	-01	Prepared 8	Analyzed:	04/05/17				
% Moisture	9.0	0.1	%		8.0			11.8	20	
Batch P7D0506 - *** DEFAULT PREP ***	r									
Blank (P7D0506-BLK1)				Prepared &	k Analyzed:	04/05/17				
Chloride	ND	1.00	mg/kg wet							
LCS (P7D0506-BS1)				Prepared &	& Analyzed:	04/05/17				
Chloride	432	1.00	mg/kg wet	400		108	80-120			
LCS Dup (P7D0506-BSD1)				Prepared 8	& Analyzed	: 04/05/17				
Chloride	431	1.00	mg/kg wet	400		108	80-120	0.382	20	
Duplicate (P7D0506-DUP1)	Sou	rce: 7D03005	-01	Prepared &	& Analyzed	04/05/17				
Chloride	ND	1.09	mg/kg dry		ND				20	
Matrix Spike (P7D0506-MS1)	Sou	rce: 7D03005	-01	Prepared &	k Analyzed	: 04/05/17				
Chloride	ND	1.09	mg/kg dry	1090	ND		80-120			

Larson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	17-0121-01	
Midland TX, 79710	Project Manager:	Mark Larson	

#### Notes and Definitions

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- R3 The RPD exceeded the acceptance limit due to sample matrix effects.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- BULK Samples received in Bulk soil containers
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Report Approved By:	 Date:	4/5/2017
report pproved by:		17 57 20 0 1 7

Brent Barron, Laboratory Director/Technical Director

Permian Basin Environmental Lab, L.P.

L.	arson & Associates, Inc.	Project:	Targa South Justis Pipeline	Fax: (432) 687-0456
р	.O. Box 50685	Project Number:	17-0121-01	
Ν	Aidland TX, 79710	Project Manager:	Mark Larson	

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.





#### APPENDIX C

Initial and Final C-141

		NM	OIL CON					
District 1 625 N. French Dr., Hobbs, NM 88240 District II Energy 11 S. First St., Artesia, NM 88210		New Mexico and Natural Resources		· ·	Form C-141 Revised August 8, 2011			
District III O	il Conser	vation Division	Submi	t l Copy	to appropriate District Office in			
	220 South	St. Francis Dr.	RECE	IVED	to appropriate District Office in cordance with 19.15.29 NMAC.			
220 S. St. Francis Dr., Santa Fe, NM 87505	Santa Fe	, NM 87505						
FAB1636434584 Release Not	ification	and Corrective	Action					
NAB1436435554		OPERATOR	[	🛛 Initia	al Report 🔲 Final Report			
		Contact: Bill Little	7000		· · · · · · · · · · · · · · · · · · ·			
Address: PO Box 1909 Eunice, NM 88231 Facility Name Europe Courter		Telephone No.: 575.631. Facility Type	refine		Compression			
C I M	1		<u> </u>	API No.				
	ral Owner		I	ALINO				
		NOF RELEASE	East/We	otline	County			
Unit Letter Section Township Range Feet from th E 24 25S 37E Feet from th	ne North/		5 E850WC	scune	Lea			
Latitude_3	32.11935	Longitude 103.1243	8					
	ATURE	OF RELEASE						
Type of Release Liquid		Volume of Release 10 B liquid	BLS of	Volume H	lecovered			
Source of Release leak on a 4" steel down leg		Date and Hour of Occurre						
Was Immediate Notice Given?		12/18/16 8:00 AM If YES, To Whom?	L.	12/18/10	10:00 AM Targa notified			
Yes 🖾 No 🖾 Not	t Required							
By Whom?		Date and Hour						
Was a Watercourse Reached?		If YES, Volume Impactir	ig the Water	course.				
If a Watercourse was Impacted, Describe Fully.*		<u>]</u>		<u></u>				
Describe Cause of Problem and Remedial Action Taken.* 4" steel down leg developed a leak due to internal corrosion f	forcing liquid	l to surface. Line was shut	in isolating/s	topping h	eak.			
	e Sam	plas before	. clo	5 m	<b>A</b>			
I hereby certify that the information given above is true and c regulations all operators are required to report and/or file cert	tain release n	otifications and perform con e NMOCD marked as "Fina	rrective actio al Report" do	ins for rel es not rel	eases which may endanger ieve the operator of liability			
public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C- federal, state, or local laws and/or regulations.	and remediat	e contamination that pose a loes not relieve the operator	threat to gro of responsib	ility for c	compliance with any other			
public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C-	and remediat	e contamination that pose a loes not relieve the operator	threat to gro of responsib	ility for c	DIVISION			
public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C- federal, state, or local laws and/or regulations.	and remediat -141 report d	e contamination that pose a loes not relieve the operator	threat to gro of responsib	ATION	compliance with any other			
public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C- federal, state, or local laws and/or regulations.	and remediat -141 report d	e contamination that pose a loes not relieve the operator OIL CC	al Specialist:	ATION	DIVISION			
public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C- federal, state, or local laws and/or regulations. Signature: Printed Name: Bill Little Title: Area Manager	and remediat	e contamination that pose a loes not relieve the operator OIL.CC Approved by Environmente Approval Date: ///////	threat to gro of responsib $DNSERV_{1}$ al Specialist: $\frac{1}{1/16}$ E		DIVISION ARA MARKANA bate: N/A			
public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C- federal, state, or local laws and/or regulations.	and remediat	e contamination that pose a loes not relieve the operator OIL CC Approved by Environmenta	threat to gro of responsib $DNSERV_{1}$ al Specialist: $\frac{1}{1/16}$ E		DIVISION			

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 12/20/16 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number  $\underline{PP.4533}$  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 II office in Artesia on or before 2/1/16//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; C<sub>6</sub> thru C<sub>36</sub>), 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; C<sub>6</sub> thru C<sub>36</sub>), 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

#### Weaver, Crystal, EMNRD

1

From:	Lynch, Kristen, EMNRD
Sent:	Tuesday, December 20, 2016 2:33 PM
То:	Patterson, Heather, EMNRD; Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD
Subject:	Fw: Targa C 141 Legacy event
Attachments:	Eunice C-141121816 Legacy.pdf

From: Woodell, Rebecca F. <RebeccaWoodell@targaresources.com> Sent: Tuesday, December 20, 2016 10:27 AM To: Lynch, Kristen, EMNRD Cc: Klein, Cindy S. Subject: FW: Targa C 141 Legacy event

Please find attached an initial C 141 report for Targa Resources. Forwarding per Jamie Keyes. If you have any questions please call 575.631.7085. Thank You!!

From: Woodell, Rebecca F. Sent: Tuesday, December 20, 2016 10:04 AM To: 'Jamie.Keyes@state.nm.us'; 'marka.whitaker@state.nm.us' Cc: 'Klein, Cindy D. (CynthiaKlein@targaresources.com)'; Little, Bill E. Subject: Targa C 141 Legacy event Importance: High

Please find attached the initial C 141 for the 12/18/16 Targa Resources leak, verbal notification Monday, 12/19/16 to Mark Whitaker's desk by Rebecca Woodell. The final C 141 will be submitted upon completion of the cleanup of site.

Thank You,

Rebecca Woodell Targa Resources ES&H Specialist Eunice Area PO Box 1909 Eunice, NM 88231 575.394.2534.239 Office 575.631.7085 Cell rwoodell@targaresources.com

This email (including any attachments and accompanying emails) may contain proprietary and confidential information. If you are not the intended recipient, please telephone the sender and immediately delete this e-mail (including any attachments and accompanying emails). Please do not replicate, disclose, distribute, forward, or retain this e-mail or any part of this email. Thank you.

#### Mark Larson

Subject: Attachments: FW: [EXTERNAL] RE: Targa Resources South Justis Final C141 OCD doc Legacy event.pdf

From: Lynch, Kristen, EMNRD [mailto:Kristen.Lynch@state.nm.us] Sent: Thursday, January 26, 2017 2:30 PM To: Woodell, Rebecca F. Cc: Oberding, Tomas, EMNRD; Yu, Olivia, EMNRD; Brown, Maxey G, EMNRD Subject: [EXTERNAL] RE: Targa Resources South Justis Final C141

Good Afternoon,

Based on documents provided permission to back fill is approved.

Thank You,

Kristen Houston

Sent from Samsung Mobile

------ Original message ------From: "Woodell, Rebecca F." Date:01/10/2017 9:39 AM (GMT-07:00) To: "Lynch, Kristen, EMNRD" Cc: "Klein, Cindy S.", "Holland, Roger D." Subject: Targa Resources South Justis Final C141

Kristen, please find attached the Final C141 for the Targa South Justis leak which occurred 12/18/16. Also attached are the lab analysis of the site, meeting OCD standards. Upon OCD approval, the site will be backfilled. Should you have any questions, please call.

Thank You,

Rebecca Woodell Targa Resources ES&H Specialist Eunice Area PO Box 1909 Eunice, NM 88231 575.394.2534.239 Office 575.631.7085 Cell rwoodell@targaresources.com

Attention: This message was sent from someone outside of Targa Resources. Always use caution when opening unsolicited attachments or links, even if they appear to have been sent by someone you know.

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#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

1220 3, 50, 1100	015 D1., 5210	a re, iviyi 8730.	/	Sa	anta Fe	e, NM 875	05						
			Rele	ase Notifi	catior	n and Co	orrective A	ction	ł				
OPERATOR									🗌 Initial Report 🛛 🖾 Final Repor				
Name of Co	mpany: J	larga Midstro	eam Serv	ices, LLC		Contact: Bi							
Name of Company: Targa Midstream Services, LLC Address: P.O. Box 1909, Eunice, NM 88231						Telephone No.: (575) 631-7099							
Facility Nat	ne: Eunic	e South Just	ice 4" Do	wn Leg			e: Natural Gas		10				
Surface Owner: Legacy Mineral Owner									Lease No.				
	<u></u>						E A CE						
LOCATION OF RELEASE           Unit Letter         Section         Township         Range         Feet from the         North/South Line         Feet from the         East/West Line         County													
Unit Letter E	Section 24	Township 25S	37E	1,300		South	250	West		Lea			
{			L	Latitude: 32.1		Ű,	de: 1103.1243	<b>8</b> °					
				NAI	TURE	OF REL		1. 1.3	1. 1. 1	a a a u a a a di	Nono		
		al Gas Liquids				Volume of Release: 10bbl liquid Volume Recovered: Nor Date and Hour of Occurrence: Date and Hour of Discov							
Source of Re	icase: Leal	c on 4" steel d	iown leg			Date and Hour of Occurrence: 12/18/2016				6 10:AM T			
Was Immedi	ate Notice (		Yes []	No 🛛 Not R	equired	If YES, To			J				
By Whom?						Date and Hour							
Was a Watercourse Reached?						If YES, Volume Impacting the Watercourse.							
If a Watercou	irse was Im	pacted, Descr	ibe Fully.'	k		1	22201/						
							PPROV	ED					
						B	y Olivia Y	u at	10:48 a	nm, Ma	y 03	, 2017	
			dial Actio	n Taken.* A 4"	steel do	wn leg develo	ped leak due to i	nternal	corrosion fo	rcing liquid	to sur	face. Line	
was shut in is	solating/sto	pping leak.											
approved lan samples were were below t not believed	dfill. Conf collected a he RRAL fo to be from t	irmation samp at approximate or BTEX and	oles collect ely 2 feet t TPH. Chl s liquids re	ed from the exca below ground at 4 oride in sample S clease since the o	vated an Location S-1 locat	ea showed TI ns from an ov ed near the so	il from the affect PH below RRAL erspray arca loca outh end of the ov historic oil and g	and chlo ited sout /erspray	bride below th of the rele area report	250 mg/Kg ease, as dire ed chloride	: Cont cted by at 948	OCD, and mg/Kg and	
regulations a public health should their o or the enviro	ll operators or the envi operations h nment. In a	are required t ronment. The nave failed to a	to report and acceptance adequately DCD accept	nd/or file certain ce of a C-141 rep investigate and	release n ort by th remediat	otifications a e NMOCD n te contaminat	knowledge and nd perform corre parked as "Final I ion that pose a th ve the operator of	ctive ac Report" reat to g respons	tions for rel does not rel ground wate sibility for c	eases which ieve the op- r, surface w compliance	n may e erator c vater, hu with ar	ndanger If liability uman health	
		1		·····		OIL CONSERVATION DIVISION							
Signature:	Bi		74						Dy	-			
Printed Nam	e: Bill Littl	e				Approved by	District Supervi	sor:	V				
Title: Arca M						Approval Da	te: 5/3/2017		Expiration	Date: XX	/xx/x	XXX	
E-mail Address: BLitle@targaresources.com						Conditions of Approval:				Attached			
Date: 04-1	-2017	1	Phone: (5	75) 631-7099									

\* Attach Additional Sheets If Necessary