

# **REMEDIATION SUMMARY AND SITE CLOSURE REQUEST**

**Plains Marketing, L.P.**  
**Mewbourne Forty Niner Ridge Unit 103H**  
**EDDY COUNTY, NEW MEXICO**  
**UNIT LETTER "O", SECTION 22, TOWNSHIP 23 SOUTH, RANGE 30 EAST**  
**GPS: N 32.28414° W -103.86346°**  
NMOCD Reference: 2RP-4748

Prepared for:

**Plains Marketing, L.P.**  
333 Clay Street, Suite 1600  
Houston, Texas 77002

Prepared by:

**TRC Environmental Corporation**  
10 Desta Drive, Suite 150E  
Midland, Texas 79705

June 2018



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Joel W. Lowry  
Senior Project Manager



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Curt D. Stanley  
Senior Project Manager

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## 1.0 INTRODUCTION AND BACKGROUND

On behalf of Plains Marketing, L.P. (Plains), TRC Environmental Corporation (TRC) has prepared this *Remediation Summary and Site Closure Request* for the crude oil release site known as Mewbourne Forty Niner Ridge Unit 103H (2RP-4748). The Release Site is located approximately fourteen (14) miles East of Loving in Eddy County, New Mexico, in Unit Letter “O”, Section 22, Township 23 South, Range 30 East. The GPS coordinates for the site are N 32.28414° and W 103.86346°. The affected property is located on land administered by the Bureau of Land Management (BLM). A Site Location Map is provided as Figure 1.

On May 14, 2018, a release occurred at Mewbourne Oil Company’s Forty Niner Ridge Unit 103H production facility. The release was attributed to a valve on the load line being left in the open position, resulting in the release of approximately ten (10) barrels (bbls) of crude oil. The release was confined to within the perimeter of the caliche well pad. Site photographs are provided as Appendix A. The Release Notification and Corrective Action (Form C-141) is provided as Appendix D.

## 2.0 NMOCD SITE CLASSIFICATION

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) indicated depth to groundwater information is not available in Section 22, Township 23 South, Range 30 East. An inferred depth of groundwater reference map utilized by The New Mexico Oil Conservation Division (NMOCD) indicates groundwater should be encountered at approximately two hundred seventy-five (275) feet below ground surface (bgs). Based on the NMOCD site classification system zero (0) points will be assigned to the Release Site ranking as a result of this criterion.

There are no registered water wells located within 1,000 feet of the Release Site. Based on the NMOCD Site Classification System, zero (0) points will be assigned to the Release Site ranking as a result of this criterion.

There are no surface-water features located within a 1,000-foot radius of the site. Based on the NMOCD Site Classification System, zero (0) points would be assigned to the site as a result of this criterion. The NMOCD guidelines indicate the Release Site has a ranking score of zero (0) points. The regulatory guidelines for a Release Site with a ranking score of zero (0) points are as follows:

- Benzene - 10 mg/kg
- Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX) - 50 mg/kg
- Total Petroleum Hydrocarbons (TPH) – 5,000 mg/kg
- Chloride – 600 mg/kg

### 3.0 SUMMARY OF FIELD ACTIVITIES

On May 23, 2018, remediation activities commenced at the release site. Impacted soil within the release margins was excavated and stockpiled on-site, atop an impermeable liner, pending final disposition. The floor and sidewalls of the excavation were advanced until laboratory analytical results from confirmation soil samples indicated concentrations of Benzene, BTEX, TPH and chloride were below the NMOCD Recommended Remediation Action Levels (RRAL).

On May 24, 2018, TRC collected sixteen (16) confirmation soil samples from the floor and sidewalls of the excavated area and submitted the soil samples to the laboratory for analysis of benzene, BTEX, TPH, and chloride concentrations. Laboratory analytical results indicated benzene concentrations were less than the applicable laboratory reporting limit (RL) in each of the submitted soil samples, with the exception of soil sample SP-3 @ 3', which exhibited a benzene concentration of 0.132 mg/kg. Analytical results indicated BTEX concentrations were less than the applicable laboratory RL in each of the submitted soil sample, with the exception of soil samples SP-1 @ 3', SP-3 @ 3' and SP-4 @ 3', which exhibited BTEX concentrations of 0.203 mg/kg, 0.441 mg/kg, 4.14 mg/kg, and 4.80 mg/kg, respectively. TPH concentrations ranged from less than the laboratory RL in soil samples NSW-1, NSW-2, ESW-2, WSW-2, SSW-1, SSW-2, SSW-3, and SP-2 @ 2' to 268.4 mg/kg in soil sample SP-4 @ 3'. Chloride concentrations ranged from less than the laboratory RL in soil samples ESW-2, WSW-1, WSW-2, SSW-1, SSW-2, SP-1 @ 3', and SP-5 @ 2' to 41.5 mg/kg in soil sample ESW-1. Benzene, BTEX, TPH and chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples. A table summarizing Concentrations of Benzene, BTEX, TPH, and Chloride in Soil is provided as Table 1. Laboratory Analytical Reports are provided as Appendix B. Soil sample locations are depicted on Figure 2 – Site & Sample Location Map.

On June 12, 2018, TRC submitted a *Remediation Activities Summary and Backfill Request* to the NMOCD and BLM, detailing remediation activities conducted to date, summarizing analytical results from confirmation soil samples, and requesting permission to backfill the excavated area. The request was subsequently approved.

Between June 22 and 25, 2018, approximately one hundred (160) cubic yards (cy) of impacted soil was transported to Lea Land, LLC (NMOCD Permit No. NM-01-0035) for disposal. Copies of non-hazardous waste manifests are provided in Appendix C.

Upon receiving NMOCD and BLM permission, the excavated areas were backfilled with locally sourced, non-impacted “like” material. Prior to backfilling, the final dimensions of the excavated area were approximately one hundred sixty (160) ft. in length, seventeen (17) ft. to one thirty-six (136) ft. in width, and two (2) ft. to three (3) ft. in depth.



## **4.0 SITE CLOSURE REQUEST**

Based on laboratory analytical results from confirmation soil samples and field activities conducted to date, TRC recommends Plains provide copies of this *Remediation Summary and Site Closure Request* to the NMOCD and BLM, and request closure status be granted to the Mewbourne Forty Niner Ridge Unit 103H Release Site.

## **5.0 LIMITATIONS**

TRC Environmental Corporation has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended. TRC Environmental Corporation has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC Environmental Corporation has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC Environmental Corporation has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC Environmental Corporation also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Marketing, L.P. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC Environmental Corporation and/or Plains Marketing, L.P.

## **6.0 DISTRIBUTION**

- Copy 1: Mike Bratcher  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division – District II  
811 S. First Street  
Artesia, New Mexico 88210
- Copy 2: Shelly Tucker  
Carlsbad Field Office  
United States Department of the Interior  
Bureau of Land Management  
620 E. Greene Street  
Carlsbad, NM 88220
- Copy 3: Amber Groves  
Plains Marketing, L.P.  
505 North Big Spring, Suite 600  
Midland, Texas 79701  
algroves@paalp.com
- Copy 4: TRC Environmental Corporation  
10 Desta Drive, Suite 150E  
Midland, Texas 79705  
jlowry@trcsolutions.com

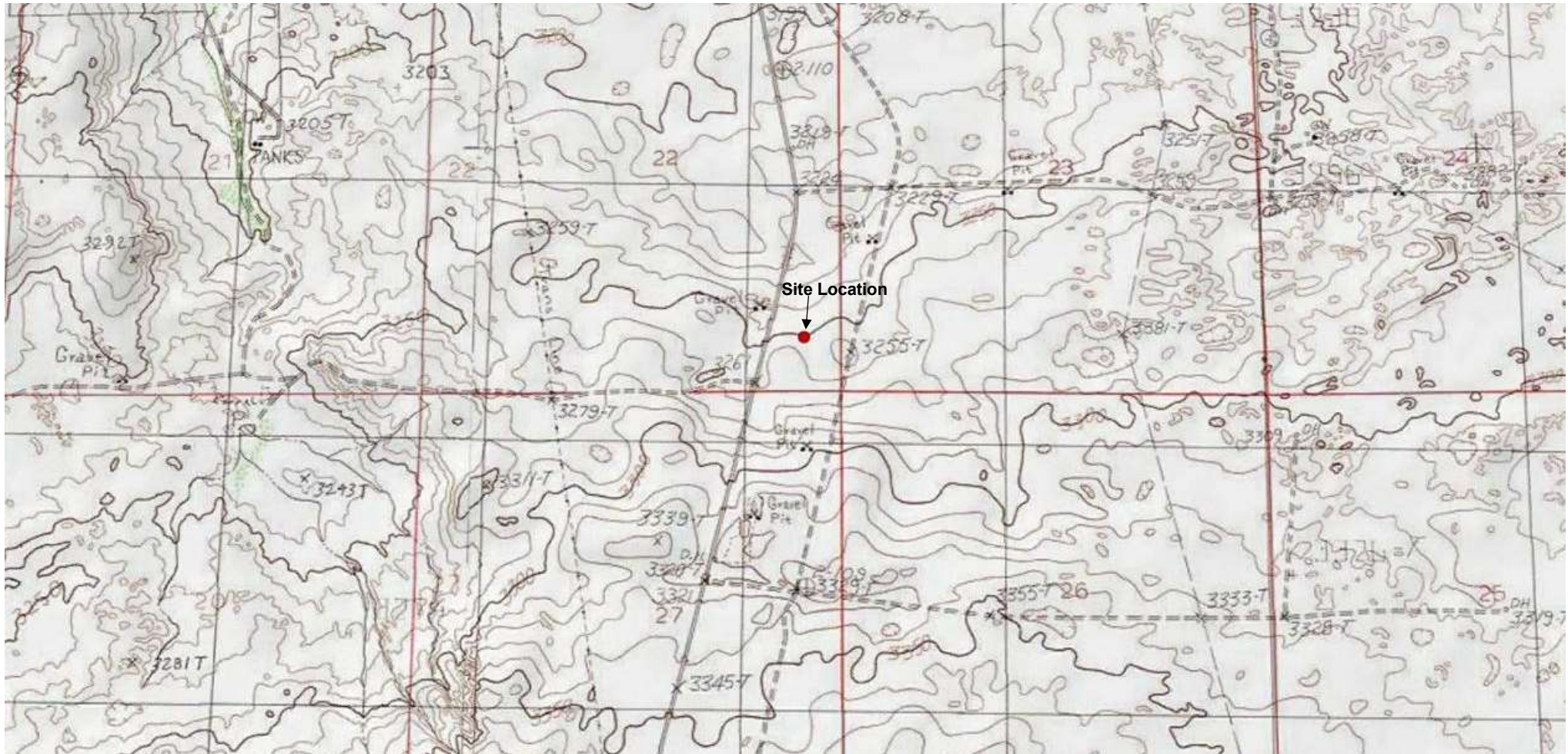


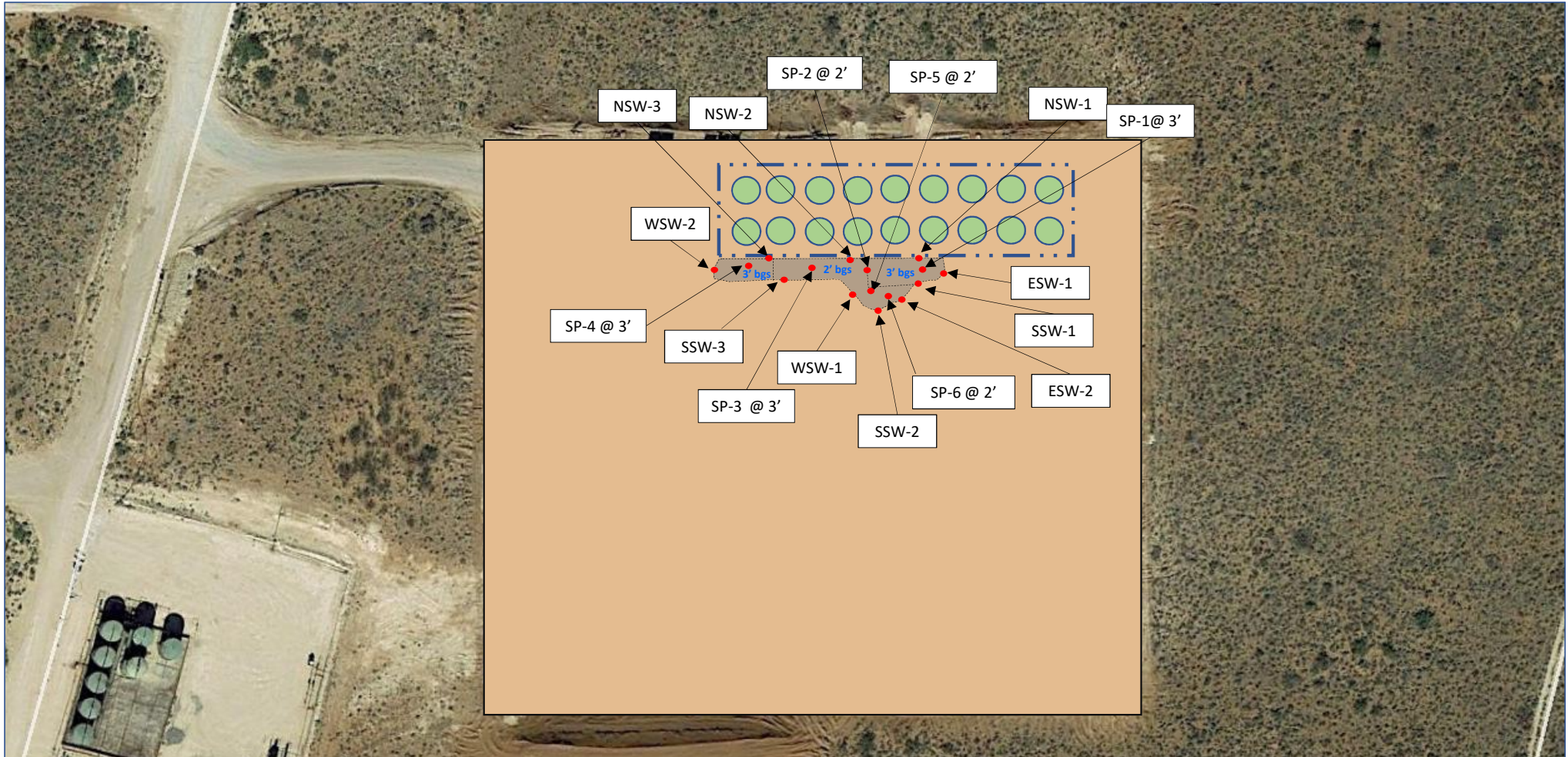
Figure 1  
 Site Location Map  
 Plains Marketing  
 Mewbourne Forty Niner Ridge Unit 103H  
 Eddy County, New Mexico

Scale 1" = 1,900	
Drafted by: ZC	Checked by: JL
Draft: June 11, 2018	
Lat. N 32.28414 Long. W 103.86436	
UL "O", Sec. 22, T23S, R30E	
TRC Proj. No.: 306159	



2057 Commerce Drive  
 Midland, Texas 79703  
 432.520.7720





**LEGEND:**

- Sample Locations
- Above Ground Storage Tanks
- Caliche Pad
- Excavated Area

Figure 2  
Site & Sample Location Map  
Plains Marketing, LP  
Mewbourne Forty Niner Ridge Unit 103H  
Eddy Co, New Mexico

Scale 1" = ~100'

Drafted by: BC      Checked by: JL

Draft: June 27, 2018

Lat. N 32.28414 Long. W -103.86346

UL "O", Sec. 22, T23S, R30E

TRC Proj. No.: 306159



2057 Commerce Drive  
Midland, Texas 79703  
432.520.7720

**TABLE 1**  
**CONCENTRATIONS OF BENZENE, BTEX, TPH, AND CHLORIDE IN SOIL**  
**MEWBOURNE FORTY NINER RIDGE UNIT 103H**  
**PLAINS MARKETING, L.P.**  
**EDDY COUNTY, NM**  
**NMOCD REF. No. 2RP-4748**

SAMPLE LOCATION	SAMPLE DATE	SAMPLE DEPTH	STATUS	Methods: EPA SW 846-8021B, 5030					Methods:				Method:
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	XYLENES, TOTAL (mg/Kg)	TOTAL BTEX (mg/Kg)	EPA SW 846-8015M				E300  CHLORIDE (mg/Kg)
									C6 - C10 GRO (mg/Kg)	C10 - C28 DRO (mg/Kg)	C28 - C36 ORO (mg/Kg)	C6 - C36 TOTAL TPH (mg/Kg)	
NSW-1	5/24/2018	1.5'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	15.1
NSW-2	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	18.4
NSW-3	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	45.6	11.2	56.8	10.2
ESW-1	5/24/2018	1.5'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	15.8	<10.0	15.8	41.5
ESW-2	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0
WSW-1	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	220	41.7	261.7	<10.0
WSW-2	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0
SSW-1	5/24/2018	1.5	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0
SSW-2	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0
SSW-3	5/24/2018	1'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	14.4
SP-1 @ 3'	5/24/2018	3'	In-Situ	<0.050	<0.050	<0.050	0.203	0.203	<10.0	19.7	<10.0	19.7	<10.0
SP-2 @ 2'	5/24/2018	2'	In-Situ	<0.050	0.171	0.083	0.441	0.695	<10.0	<10.0	<10.0	<10.0	12.8
SP-3 @ 3'	5/24/2018	3'	In-Situ	0.132	1.13	0.685	4.14	6.08	16.0	58.3	<10.0	74.3	15.6
SP-4 @ 3'	5/24/2018	3'	In-Situ	<0.050	0.924	0.845	4.80	6.57	26.2	213	29.2	268.4	11.1
SP-5 @ 2'	5/24/2018	2'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	26.9	<10.0	26.9	<10.0
SP-6 @ 2'	5/24/2018	2'	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	32.3	<10.0	32.3	12.6
NMOCD Regulatory Guideline				10	-	-	-	50	-	-	-	5,000	600





**Figure 1** - View of surface staining from the initial release, facing East.



**Figure 2** - View of surface staining from the initial release, facing Northeast.





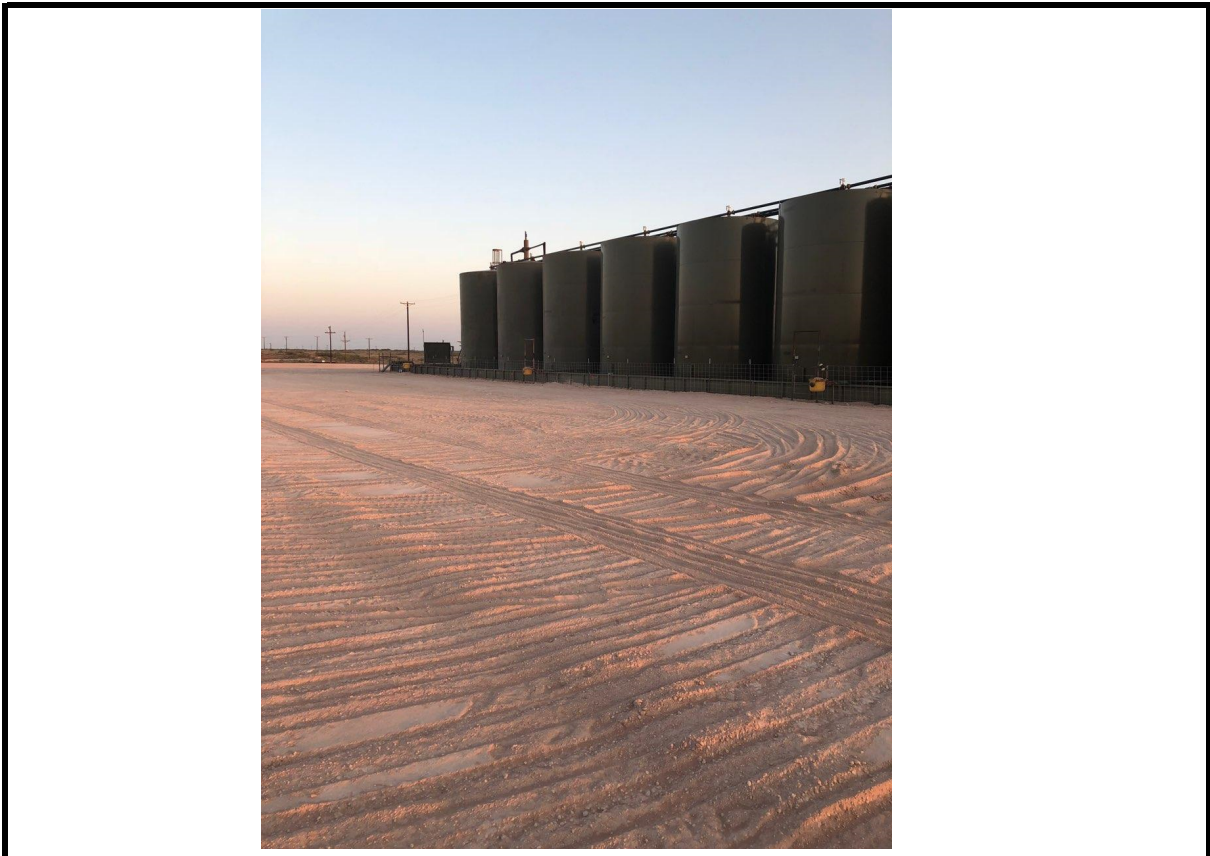
**Figure 3** - View of portion of the excavated area, facing East.



**Figure 4** - View of portion of the excavated area, facing West.



**Figure 5** - View of portion of the excavated area, facing Northeast.



**Figure 6** - View of affected area after remediation activities, facing Northwest.





June 01, 2018

JOEL LOWRY

PLAINS ALL AMERICAN PIPELINE

505 NORTH BIG SPRINGS ST STE. 600

MIDLAND, TX 79701

RE: MEWBOURNE FORTY NINER RIDGE UNIT 103

Enclosed are the results of analyses for samples received by the laboratory on 05/25/18 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:Reported:  
01-Jun-18 16:54

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NSW - 1	H801449-01	Soil	24-May-18 13:10	25-May-18 15:35
NSW - 2	H801449-02	Soil	24-May-18 13:20	25-May-18 15:35
NSW - 3	H801449-03	Soil	24-May-18 13:40	25-May-18 15:35
ESW - 1	H801449-04	Soil	24-May-18 13:50	25-May-18 15:35
ESW - 2	H801449-05	Soil	24-May-18 14:00	25-May-18 15:35
WSW - 1	H801449-06	Soil	24-May-18 14:10	25-May-18 15:35
WSW - 2	H801449-07	Soil	24-May-18 14:20	25-May-18 15:35
SSW - 1	H801449-08	Soil	24-May-18 14:30	25-May-18 15:35
SSW - 2	H801449-09	Soil	24-May-18 14:40	25-May-18 15:35
SSW - 3	H801449-10	Soil	24-May-18 00:00	25-May-18 15:35
SP -1 @ 3'	H801449-11	Soil	24-May-18 08:00	25-May-18 15:35
SP -2 @ 2'	H801449-12	Soil	24-May-18 08:10	25-May-18 15:35
SP -3 @ 3'	H801449-13	Soil	24-May-18 08:20	25-May-18 15:35
SP -4 @ 3'	H801449-14	Soil	24-May-18 08:30	25-May-18 15:35
SP -5 @ 2'	H801449-15	Soil	24-May-18 08:40	25-May-18 15:35
SP -6 @ 2'	H801449-16	Soil	24-May-18 08:50	25-May-18 15:35

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### NSW - 1 H801449-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	29-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	29-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	29-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	29-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	29-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			123 %		69.8-142	8052908	MS	29-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			88.4 %		41-142	8052906	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			85.1 %		37.6-147	8052906	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	15.1		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### NSW - 2 H801449-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			118 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			78.4 %	41-142		8052906	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			74.9 %	37.6-147		8052906	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	18.4		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### NSW - 3 H801449-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			114 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052906	MS	30-May-18	8015B	
DRO >C10-C28*	45.6		10.0	mg/kg	1	8052906	MS	30-May-18	8015B	
EXT DRO >C28-C36	11.2		10.0	mg/kg	1	8052906	MS	30-May-18	8015B	
Surrogate: 1-Chlorooctane			93.4 %	41-142		8052906	MS	30-May-18	8015B	
Surrogate: 1-Chlorooctadecane			101 %	37.6-147		8052906	MS	30-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	10.2		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### ESW - 1 H801449-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			111 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
DRO >C10-C28*	15.8		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			85.9 %	41-142		8052906	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			82.9 %	37.6-147		8052906	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	41.5		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### ESW - 2 H801449-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			<i>112 %</i>	<i>69.8-142</i>		<i>8052908</i>	<i>MS</i>	<i>30-May-18</i>	<i>8021B</i>	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052906	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			<i>84.0 %</i>	<i>41-142</i>		<i>8052906</i>	<i>MS</i>	<i>29-May-18</i>	<i>8015B</i>	
<i>Surrogate: 1-Chlorooctadecane</i>			<i>81.5 %</i>	<i>37.6-147</i>		<i>8052906</i>	<i>MS</i>	<i>29-May-18</i>	<i>8015B</i>	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### WSW - 1 H801449-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			106 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	220		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	41.7		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			84.9 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			95.8 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### WSW - 2

### H801449-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			107 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			81.3 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			75.0 %	37.6-147		8052907	MS	29-May-18	8015B	

### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### SSW - 1

### H801449-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			106 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			80.4 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			72.8 %	37.6-147		8052907	MS	29-May-18	8015B	

### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### SSW - 2 H801449-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052908	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052908	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052908	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			107 %	69.8-142		8052908	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			83.4 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			77.1 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### SSW - 3 H801449-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8052910	MS	29-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8052910	MS	29-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8052910	MS	29-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8052910	MS	29-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8052910	MS	29-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			110 %	69.8-142		8052910	MS	29-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			85.1 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			78.8 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	14.4		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

**SP-1 @ 3'**  
**H801449-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

##### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
<b>Total Xylenes*</b>	<b>0.203</b>		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			109 %	69.8-142		8053002	MS	30-May-18	8021B	

##### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
<b>DRO &gt;C10-C28*</b>	<b>19.7</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			85.5 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			78.1 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

##### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

**SP -2 @ 2'**  
**H801449-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	<b>0.171</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	<b>0.083</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Total Xylenes*	<b>0.441</b>		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	<b>0.695</b>		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			111 %	69.8-142		8053002	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			88.8 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			82.5 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<b>12.8</b>		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### SP -3 @ 3' H801449-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

<b>Benzene*</b>	<b>0.132</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
<b>Toluene*</b>	<b>1.13</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
<b>Ethylbenzene*</b>	<b>0.685</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
<b>Total Xylenes*</b>	<b>4.14</b>		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
<b>Total BTEX</b>	<b>6.08</b>		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			125 %	69.8-142		8053002	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

<b>GRO C6-C10*</b>	<b>16.0</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
<b>DRO &gt;C10-C28*</b>	<b>58.3</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>&lt;10.0</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			92.6 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			86.6 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

<b>Chloride</b>	<b>15.6</b>		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

**SP -4 @ 3'**  
**H801449-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	<b>0.924</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	<b>0.845</b>		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Total Xylenes*	<b>4.80</b>		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	<b>6.57</b>		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			130 %	69.8-142		8053002	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<b>26.2</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	<b>213</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<b>29.2</b>		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			89.2 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			90.8 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<b>11.1</b>		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### SP -5 @ 2' H801449-15 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			108 %	69.8-142		8053002	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	26.9		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			84.8 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			79.9 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	<10.0		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### SP -6 @ 2' H801449-16 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			108 %	69.8-142		8053002	MS	30-May-18	8021B	

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	32.3		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctane			76.8 %	41-142		8052907	MS	29-May-18	8015B	
Surrogate: 1-Chlorooctadecane			75.0 %	37.6-147		8052907	MS	29-May-18	8015B	

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	12.6		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8052908 - Volatiles

##### Blank (8052908-BLK1)

Prepared & Analyzed: 29-May-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.106		mg/kg	0.100		106	69.8-142			

##### LCS (8052908-BS1)

Prepared & Analyzed: 29-May-18

Benzene	1.87	0.050	mg/kg	2.00		93.5	74.5-124			
Toluene	1.85	0.050	mg/kg	2.00		92.7	78.8-122			
Ethylbenzene	1.85	0.050	mg/kg	2.00		92.5	78.6-122			
Total Xylenes	5.74	0.150	mg/kg	6.00		95.7	79.7-123			
Surrogate: 4-Bromofluorobenzene (PID)	0.103		mg/kg	0.100		103	69.8-142			

##### LCS Dup (8052908-BS1)

Prepared & Analyzed: 29-May-18

Benzene	1.80	0.050	mg/kg	2.00		90.2	74.5-124	3.60	15.2	
Toluene	1.80	0.050	mg/kg	2.00		90.0	78.8-122	2.94	15.1	
Ethylbenzene	1.77	0.050	mg/kg	2.00		88.6	78.6-122	4.30	15.4	
Total Xylenes	5.47	0.150	mg/kg	6.00		91.2	79.7-123	4.85	15.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.105		mg/kg	0.100		105	69.8-142			

#### Batch 8052910 - Volatiles

##### Blank (8052910-BLK1)

Prepared & Analyzed: 29-May-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.111		mg/kg	0.100		111	69.8-142			

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8052910 - Volatiles

##### LCS (8052910-BS1)

Prepared & Analyzed: 29-May-18

Benzene	2.27	0.050	mg/kg	2.00		114	74.5-124			
Toluene	2.30	0.050	mg/kg	2.00		115	78.8-122			
Ethylbenzene	2.34	0.050	mg/kg	2.00		117	78.6-122			
Total Xylenes	6.86	0.150	mg/kg	6.00		114	79.7-123			
Surrogate: 4-Bromofluorobenzene (PID)	0.103		mg/kg	0.100		103	69.8-142			

##### LCS Dup (8052910-BS1)

Prepared & Analyzed: 29-May-18

Benzene	2.23	0.050	mg/kg	2.00		112	74.5-124	1.85	15.2	
Toluene	2.29	0.050	mg/kg	2.00		115	78.8-122	0.232	15.1	
Ethylbenzene	2.33	0.050	mg/kg	2.00		116	78.6-122	0.359	15.4	
Total Xylenes	6.82	0.150	mg/kg	6.00		114	79.7-123	0.572	15.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.108		mg/kg	0.100		108	69.8-142			

#### Batch 8053002 - Volatiles

##### Blank (8053002-BLK1)

Prepared & Analyzed: 30-May-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.107		mg/kg	0.100		107	69.8-142			

##### LCS (8053002-BS1)

Prepared & Analyzed: 30-May-18

Benzene	1.89	0.050	mg/kg	2.00		94.4	74.5-124			
Toluene	1.95	0.050	mg/kg	2.00		97.3	78.8-122			
Ethylbenzene	1.97	0.050	mg/kg	2.00		98.6	78.6-122			
Total Xylenes	5.77	0.150	mg/kg	6.00		96.1	79.7-123			
Surrogate: 4-Bromofluorobenzene (PID)	0.109		mg/kg	0.100		109	69.8-142			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:Reported:  
01-Jun-18 16:54**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8053002 - Volatiles****LCS Dup (8053002-BSD1)**

Prepared &amp; Analyzed: 30-May-18

Benzene	1.93	0.050	mg/kg	2.00		96.5	74.5-124	2.20	15.2	
Toluene	1.99	0.050	mg/kg	2.00		99.7	78.8-122	2.47	15.1	
Ethylbenzene	2.03	0.050	mg/kg	2.00		101	78.6-122	2.70	15.4	
Total Xylenes	5.92	0.150	mg/kg	6.00		98.7	79.7-123	2.66	15.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.109		mg/kg	0.100		109	69.8-142			

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### Petroleum Hydrocarbons by GC FID - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 8052906 - General Prep - Organics

##### Blank (8052906-BLK1)

Prepared & Analyzed: 29-May-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	58.9		mg/kg	50.0		118	41-142			
Surrogate: 1-Chlorooctadecane	65.8		mg/kg	50.0		132	37.6-147			

##### LCS (8052906-BS1)

Prepared & Analyzed: 29-May-18

GRO C6-C10	222	10.0	mg/kg	200		111	76.5-133			
DRO >C10-C28	227	10.0	mg/kg	200		113	72.9-138			
Total TPH C6-C28	448	10.0	mg/kg	400		112	78-132			
Surrogate: 1-Chlorooctane	60.2		mg/kg	50.0		120	41-142			
Surrogate: 1-Chlorooctadecane	68.1		mg/kg	50.0		136	37.6-147			

##### LCS Dup (8052906-BSD1)

Prepared & Analyzed: 29-May-18

GRO C6-C10	226	10.0	mg/kg	200		113	76.5-133	1.89	20.6	
DRO >C10-C28	231	10.0	mg/kg	200		115	72.9-138	1.75	20.6	
Total TPH C6-C28	457	10.0	mg/kg	400		114	78-132	1.82	18	
Surrogate: 1-Chlorooctane	60.0		mg/kg	50.0		120	41-142			
Surrogate: 1-Chlorooctadecane	66.1		mg/kg	50.0		132	37.6-147			

#### Batch 8052907 - General Prep - Organics

##### Blank (8052907-BLK1)

Prepared & Analyzed: 29-May-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	55.3		mg/kg	50.0		111	41-142			
Surrogate: 1-Chlorooctadecane	53.6		mg/kg	50.0		107	37.6-147			

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701

Project: MEWBOURNE FORTY NINER RIDGE  
Project Number: SRS PENDING  
Project Manager: JOEL LOWRY  
Fax To:

Reported:  
01-Jun-18 16:54

### Petroleum Hydrocarbons by GC FID - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8052907 - General Prep - Organics

##### LCS (8052907-BS1)

Prepared & Analyzed: 29-May-18

GRO C6-C10	199	10.0	mg/kg	200		99.5	76.5-133		
DRO >C10-C28	215	10.0	mg/kg	200		107	72.9-138		
Total TPH C6-C28	414	10.0	mg/kg	400		103	78-132		
Surrogate: 1-Chlorooctane	56.4		mg/kg	50.0		113	41-142		
Surrogate: 1-Chlorooctadecane	56.6		mg/kg	50.0		113	37.6-147		

##### LCS Dup (8052907-BS1)

Prepared & Analyzed: 29-May-18

GRO C6-C10	208	10.0	mg/kg	200		104	76.5-133	4.23	20.6
DRO >C10-C28	224	10.0	mg/kg	200		112	72.9-138	4.48	20.6
Total TPH C6-C28	432	10.0	mg/kg	400		108	78-132	4.36	18
Surrogate: 1-Chlorooctane	57.6		mg/kg	50.0		115	41-142		
Surrogate: 1-Chlorooctadecane	57.9		mg/kg	50.0		116	37.6-147		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701

 Project: MEWBOURNE FORTY NINER RIDGE  
 Project Number: SRS PENDING  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 01-Jun-18 16:54

**Soluble (DI Water Extraction) - Quality Control**
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch B805216 - General Prep - Wet Chem**
**Blank (B805216-BLK1)**

Prepared: 30-May-18 Analyzed: 31-May-18

Chloride	ND	10.0	mg/kg wet							
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**LCS (B805216-BS1)**

Prepared &amp; Analyzed: 30-May-18

Chloride	242	10.0	mg/kg wet	250		96.7	85-115			
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**LCS Dup (B805216-BSD1)**

Prepared &amp; Analyzed: 30-May-18

Chloride	241	10.0	mg/kg wet	250		96.2	85-115	0.456	20	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: TRC Solutions

Project Manager: Joel Lowry

Address: 10 Desta Dr Suite 150E

City: Midland State: TX Zip: 79705

Phone #: 432-466-4450 Fax #:

Project #: SRS Pending Project Owner:

Project Name: Mewbourne Forty Niner Ridge Unit 103

Project Location: Eddy Co, NM

Sampler Name: Becky Griffin

**BILL TO**

P.O. #:

Company: Plains Marketing

Attn: Amber Groves

Address: 1911 Connie Rd

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

**ANALYSIS REQUEST**

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H801449

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

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TIME

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Relinquished By:

Date: 3-25-18

Time: 3:35

Received By:

Signature: [Signature]

Phone Result: ☐ Yes ☐ No

Fax Result: ☐ Yes ☐ No

Add'l Phone #:

Add'l Fax #:

REMARKS:

Relinquished By:

Date: 3-25-18

Time: 3:35

Received By:

Signature: [Signature]

Phone Result: ☐ Yes ☐ No

Fax Result: ☐ Yes ☐ No

Add'l Phone #:

Add'l Fax #:

Delivered By: (Circle One)

3.35

Corrected 3.35

Sample Condition

Cool Intact

CHECKED BY:

(Initials)

TS-#75

1043



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: TFC Solutions

Project Manager: Joel Lowry

Address: 10 Desta Dr Suite 150E

City: Midland State: TX Zip: 79705

Phone #: 432-466-4450 Fax #:

Project #: SRS Pending Project Owner:

Project Name: Mewbourne Forty Niner Ridge Unit 103

Project Location: Eddy Co, NM

Sampler Name: Becky Griffin

BILL TO

P.O. #:

Company: Plains Marketing

Attn: Amber Groves

Address: 1911 Connie Rd

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BT EX	TPH	Chloride	F300
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
H801449	SP-1 @ 3'	X	X	X						5:24-13	8:00	X	X	X	
11	SP-2 @ 2'	X	X	X						8:10		X	X	X	
12	SP-3 @ 2'	X	X	X						8:20		X	X	X	
13	SP-4 @ 2'	X	X	X						8:30		X	X	X	
14	SP-5 @ 2'	X	X	X						8:40		X	X	X	
15	SP-6 @ 2'	X	X	X						8:50		X	X	X	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:

Date: 5-25-18

Received By:

Relinquished By: *Becky Griffin*

Date: 5:35

Received By: *Jawana*

Time:

Delivered By: (Circle One)

3.3e

Sampler - UPS - Bus - Other:

Consulted 5.25.18

Sample Condition  
Cool ☒ Yes ☐ No  
Intact ☒ Yes ☐ No

CHECKED BY: (Initials)  
*TO HNS*

Phone Result: ☐ Yes ☐ No  
Fax Result: ☐ Yes ☐ No  
Add'l Phone #:   
Add'l Fax #:   
REMARKS:



MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

2. TRAILER NO.

**COPY 1**

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

### NON-HAZARDOUS WASTE MANIFEST

NO **124610**

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. **03**

GENERATOR'S

3. COMPANY NAME

**Plains Marketing, LP**

PHONE NO.

**(713) 646-4100**

505 Big Spring Suite 600

CITY

**Midland**

STATE

**TX**

ZIP

**79701**

5. PICKUP DATE

**6/22/2018**

6. TNRCC I.D. NO.

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

**Non-Regulated, Non Hazardous Waste**

8. CONTAINERS  
No. Type

**1**

**CM**

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

12. COMMENTS OR SPECIAL INSTRUCTIONS:

**MEWBOURNE FORTY NINER RIDGE UNIT # 103-H**

13. WASTE PROFILE NO.

**709588**

14.

#### IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME

**JOE ONTIVEROS**

PHONE NO

**575-887-4048**

24-HOUR EMERGENCY NO.

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

PRINTED/TYPED NAME

SIGNATURE

DATE

TRANSPORTER'S

16.

#### TRANSPORTER (1)

NAME:

**M. MATA TRUCKING**

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

**MANUEL MATA**

EMERGENCY PHONE:

17.

#### TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

18. TRANSPORTER (1): Acknowledgment of receipt of material

19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

PRINTED/TYPED NAME

SIGNATURE

DATE

SIGNATURE

DATE

DISPOSAL SITE

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

**575-887-4048**

PERMIT NO.

**WM-01-035 - New Mexico**

20. COMMENTS

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE **6/22/2018**

TIME

**10:20**

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

M MATA

### NON-HAZARDOUS WASTE MANIFEST

NO

124626

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO.

#151

G E N E R A T O R	3. COMPANY NAME <b>Plains Marketing, LP</b> PHONE NO. <b>(713) 648-4100</b>		4. ADDRESS <b>505 Big Spring Suite 600</b> CITY <b>Midland</b> STATE <b>TX</b> ZIP <b>79701</b>		5. PICK-UP DATE <b>6/25/2018</b>	
	7. NAME OR DESCRIPTION OF WASTE SHIPPED:				8. CONTAINERS No. Type	9. TOTAL QUANTITY
	a. <b>Non-Regulated, Non Hazardous Waste</b>				<b>1</b> <b>CM</b>	
	b. c. d. <b>WT: 40320 43040</b>					
A T T R I B U T E R	12. COMMENTS OR SPECIAL INSTRUCTIONS: <b>MEWBOURNE FORTY NINER RIDGE UNIT # 103-H</b> <b>Totale 83360</b>				13. WASTE PROFILE NO. <b>708588</b>	
	14. IN CASE OF EMERGENCY OR SPILL, CONTACT					
	NAME <b>JOE ONTIVEROS</b>		PHONE NO. <b>575-887-4048</b>		24-HOUR EMERGENCY NO.	
	15. GENERATOR'S CERTIFICATION: I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC					
T R A N S P O R T E R S	PRINTED/TYPED NAME		SIGNATURE		DATE	
	16. TRANSPORTER (1) NAME: <b>M. MATA TRUCKING/ TRC</b> TEXAS I.D. NO. IN CASE OF EMERGENCY CONTACT: <b>Kurt STANLEY</b> <b>MANUEL MATA</b> EMERGENCY PHONE: <b>(432) 569-3293 / (562) 31-3231</b>		17. TRANSPORTER (2) NAME: TEXAS I.D. NO. IN CASE OF EMERGENCY CONTACT: EMERGENCY PHONE:			
	18. TRANSPORTER (1): Acknowledgment of receipt of material PRINTED/TYPED NAME <b>Manuel A. Mata</b> SIGNATURE <b>[Signature]</b> DATE <b>6-25-18</b>		19. TRANSPORTER (2): Acknowledgment of receipt of material PRINTED/TYPED NAME SIGNATURE DATE			
	D I S C I P L I N A R Y					
D I S C I P L I N A R Y	Lea Land, LLC		ADDRESS: Mile Marker 64, U.S. Hwy 62/180, 30 Miles East of Carlsbad, NM		PHONE: 575-887-4048	
	PERMIT NO. WM-01-035 - New Mexico		20. COMMENTS			
	21. DISPOSAL FACILITY'S CERTIFICATION: I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.					
	AUTHORIZED SIGNATURE <b>[Signature]</b>		CELL NO.		DATE <b>6/25/2018</b>	TIME <b>10:00</b>

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 1



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

State of New Mexico  
Energy Minerals and Natural Resources

MAY 15 2018

Form C-141  
Revised April 3, 2017

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

DISTRICT II-ARTESIA O.C.D.

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

~~FAB1813733135~~  
~~NAB1813733242~~

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Plains Marketing 34053	Contact Amber Groves
Address 1911 Connie Rd. Carlsbad NM 88220	Telephone No. 575-200-5517
Facility Name Mewbourne Forty Niner Ridge Unit 103H	Facility Type Tank Battery
Surface Owner BLM	Mineral Owner
API No.	

## LOCATION OF RELEASE

Unit Letter O	Section 22	Township 23S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------

Latitude 32.28414800 Longitude -103.863464000 NAD83

## NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 10 bbls	Volume Recovered 0 bbls
Source of Release Loading Header	Date and Hour of Occurrence 5/14/2018 @ 11:30 am	Date and Hour of Discovery 5/14/2018 @ 11:30 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher and Shelly Tucker	
By Whom? Amber Groves	Date and Hour 5/14/2018 @ 2:27 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A Plains driver pulled up to the load header to load. When he opened the tank valve on the load line manifold, the load line had been left open.

Describe Area Affected and Cleanup Action Taken.\*

The impacted area is contained to the pad and will be remediated per current NMOCD guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

## OIL CONSERVATION DIVISION

Signature: 

Printed Name: Amber Groves

Title: Remediation Coordinator

E-mail Address: algroves@paalp.com

Date: 5/15/2018

Phone: 575-200-5517

Approved by Environmental Specialist

Approval Date: 5/15/18

Expiration Date: N/A

Conditions of Approval:

See Attached

Attached ☐

200-4748

\* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 5/15/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4748 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 division-approved corrective action 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 2 office in ARTESIA on or before 6/15/2018. 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

## Bratcher, Mike, EMNRD

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**From:** Amber L Groves <ALGroves@paalp.com>  
**Sent:** Tuesday, May 15, 2018 9:42 AM  
**To:** Bratcher, Mike, EMNRD; Tucker, Shelly  
**Cc:** 'zthomas@mewbourne.com'  
**Subject:** Plains Mewbourne Forty Niner Ridge Unit 103H Initial C-141  
**Attachments:** C-141.pdf

Good Morning, Mr. Bratcher and Ms. Tucker,

Please find attached the initial C-141 for the release that Plains had at the Mewbourne Forty Niner Ridge Unit #103H that I called in on 5/14/2018. This site is located in Unit Letter O, Section 22, Township 23S, Range 30E in Lea County. This release was attributed to the load line being left open on the loading header. The result was the release of approximately 10 barrels of crude oil with 0 barrels recovered.

Please let me know if you have any questions.

Thank you,

*Amber L. Groves  
Remediation Coordinator  
Plains All American  
1911 Connie Road  
Carlsbad, NM 88220  
Office: 575-236-1033  
Cell: 575-200-5517*

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