

**REMEDICATION 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



Joel W. Lowry
Senior Project Manager



Curt D. Stanley
Senior Project Manager

TABLE OF CONTENTS

1.0	INTRODUCTION AND BACKGROUND	1
2.0	NMOC SITE CLASSIFICATION.....	1
3.0	SUMMARY OF FIELD ACTIVITIES	2
4.0	SITE CLOSURE REQUEST	3
5.0	LIMITATIONS.....	3
6.0	DISTRIBUTION.....	4

FIGURES

- Figure 1: Site Location Map
Figure 2: Site & Sample Location Map

TABLES

- Table 1: Concentrations of Benzene, BTEX, TPH, and Chloride in Soil

APPENDICES

- Appendix A: Site Photographs
Appendix B: Laboratory Analytical Reports
Appendix C: Non-Hazardous Waste Manifests
Appendix D: Release Notification and Corrective Action (Form C-141)

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

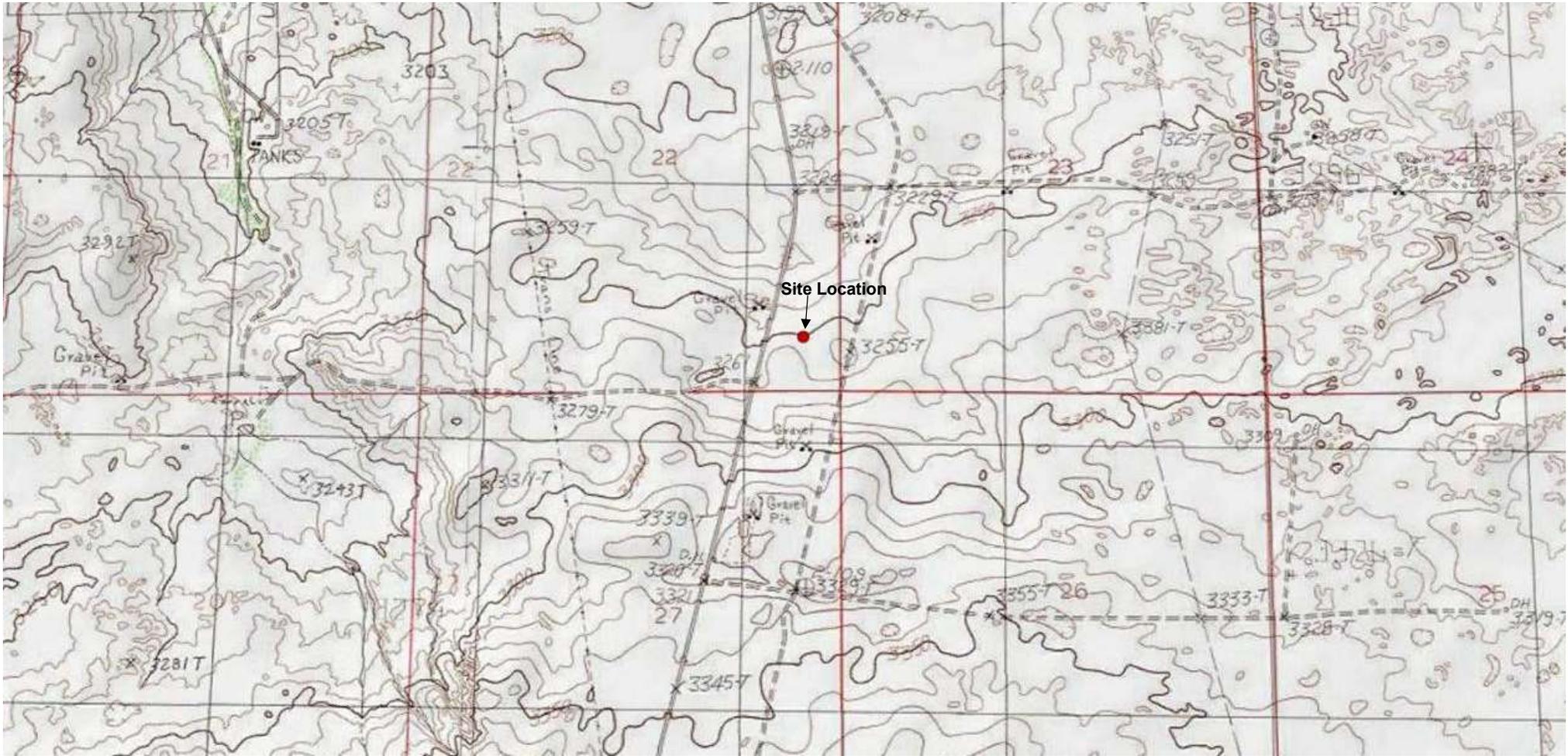
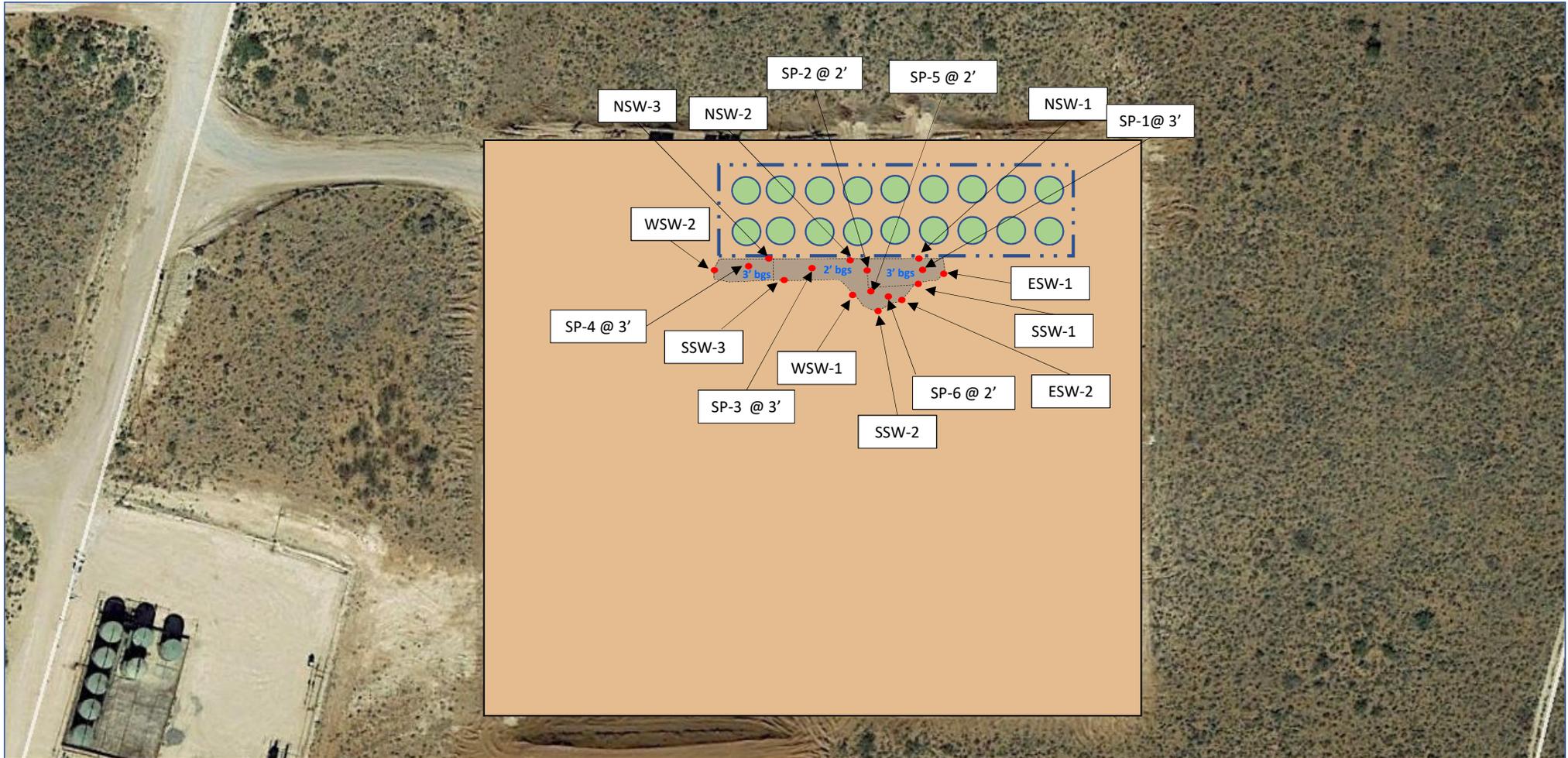


Figure 1
 Site Location Map
 Plains Marketing
 Mewbourne Forty Niner Ridge Unit 103H
 Eddy County, New Mexico

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
NMOCDF REF. No. 2RP-4748

SAMPLE LOCATION	SAMPLE DATE	SAMPLE DEPTH	STATUS	Methods: EPA SW 846-8021B, 5030					Methods: EPA SW 846-8015M				Method: E300
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	XYLENES, TOTAL (mg/Kg)	TOTAL BTEX (mg/Kg)	C6 - C10 GRO (mg/Kg)	C10 - C28 DRO (mg/Kg)	C28 - C36 ORO (mg/Kg)	C6 - C36 TOTAL TPH (mg/Kg)	CHLORIDE (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
NMOCDF 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.

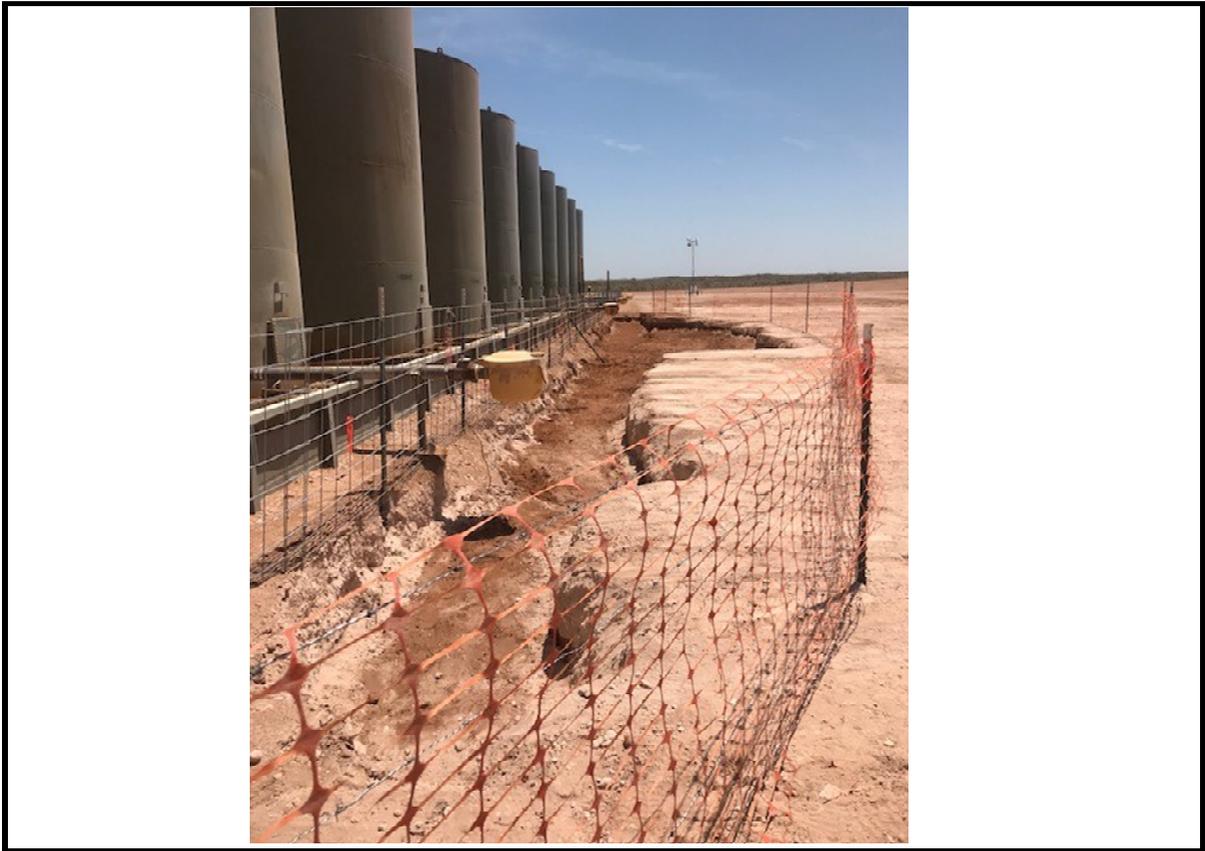


Figure 3 - View of portion of the excavated area, facing East.

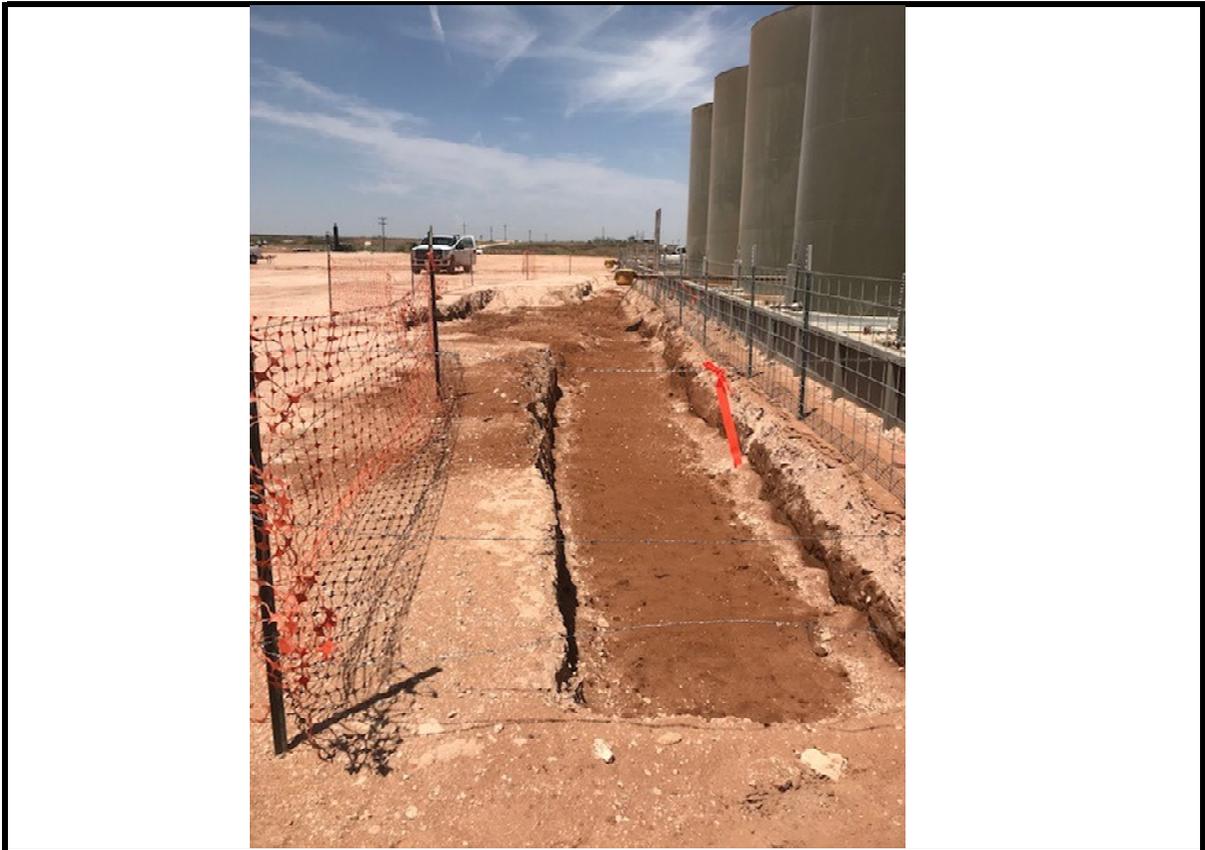


Figure 4 - View of portion of the excavated area, facing West.



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

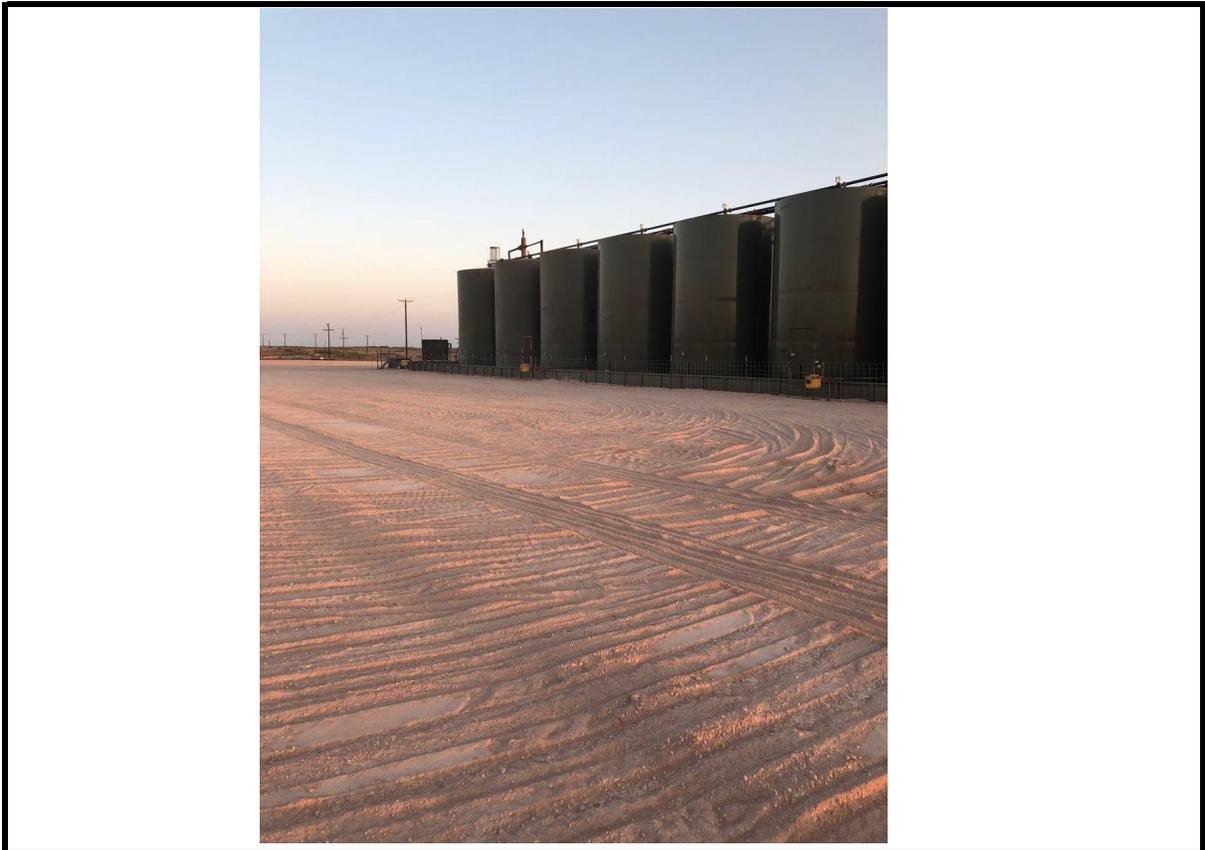


Figure 6 - View of affected area after remediation activities, facing Northwest.



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.

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, 79701

 Project: MEWBOURNE FORTY NINER RIDGI
 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

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			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	
<i>Surrogate: 1-Chlorooctane</i>			88.4 %	41-142		8052906	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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	
----------	------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			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	
<i>Surrogate: 1-Chlorooctane</i>			93.4 %	41-142		8052906	MS	30-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			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	
<i>Surrogate: 1-Chlorooctane</i>			85.9 %	41-142		8052906	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
-----------------	-------------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			112 %	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>			84.0 %	41-142		8052906	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			81.5 %	37.6-147		8052906	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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			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	
<i>Surrogate: 1-Chlorooctane</i>			84.9 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			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	
<i>Surrogate: 1-Chlorooctane</i>			81.3 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			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	
<i>Surrogate: 1-Chlorooctane</i>			80.4 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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>			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	
<i>Surrogate: 1-Chlorooctane</i>			83.4 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			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	
<i>Surrogate: 1-Chlorooctane</i>			85.1 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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*	0.203		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	
DRO >C10-C28*	19.7		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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories
Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	0.171		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	0.083		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Total Xylenes*	0.441		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	0.695		0.300	mg/kg	50	8053002	MS	30-May-18	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			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	
<i>Surrogate: 1-Chlorooctane</i>			88.8 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			82.5 %	37.6-147		8052907	MS	29-May-18	8015B	

Green Analytical Laboratories
Soluble (DI Water Extraction)

Chloride	12.8		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
-----------------	-------------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories
Volatile Organic Compounds by EPA Method 8021

Benzene*	0.132		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Toluene*	1.13		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Ethylbenzene*	0.685		0.050	mg/kg	50	8053002	MS	30-May-18	8021B	
Total Xylenes*	4.14		0.150	mg/kg	50	8053002	MS	30-May-18	8021B	
Total BTEX	6.08		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

GRO C6-C10*	16.0		10.0	mg/kg	1	8052907	MS	29-May-18	8015B	
DRO >C10-C28*	58.3		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	
<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)

Chloride	15.6		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
-----------------	-------------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories
Volatile Organic Compounds by EPA Method 8021

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

Petroleum Hydrocarbons by GC FID

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

Green Analytical Laboratories
Soluble (DI Water Extraction)

Chloride	11.1		10.0	mg/kg wet	10	B805216	AES	31-May-18	EPA300.0	
-----------------	-------------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			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	
<i>Surrogate: 1-Chlorooctane</i>			84.8 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
----------	-------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

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	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			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	
<i>Surrogate: 1-Chlorooctane</i>			76.8 %	41-142		8052907	MS	29-May-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			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	
-----------------	-------------	--	------	-----------	----	---------	-----	-----------	----------	--

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 RIDGI
 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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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							
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	<i>0.106</i>		<i>mg/kg</i>	<i>0.100</i>		<i>106</i>	<i>69.8-142</i>			

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			
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	<i>0.103</i>		<i>mg/kg</i>	<i>0.100</i>		<i>103</i>	<i>69.8-142</i>			

LCS Dup (8052908-BSD1)

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	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	<i>0.105</i>		<i>mg/kg</i>	<i>0.100</i>		<i>105</i>	<i>69.8-142</i>			

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							
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	<i>0.111</i>		<i>mg/kg</i>	<i>0.100</i>		<i>111</i>	<i>69.8-142</i>			

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 RIDGI
 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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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-BSD1)

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			

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 RIDGI
 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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 8053002 - Volatiles
LCS Dup (8053002-BSD1)

Prepared & 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	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>	<i>0.109</i>		<i>mg/kg</i>	<i>0.100</i>		<i>109</i>	<i>69.8-142</i>			

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 RIDGI
 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: MEWBORNE FORTY NINER RIDGI
 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 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			
<i>Surrogate: 1-Chlorooctane</i>	<i>56.4</i>		mg/kg	<i>50.0</i>		<i>113</i>	<i>41-142</i>			
<i>Surrogate: 1-Chlorooctadecane</i>	<i>56.6</i>		mg/kg	<i>50.0</i>		<i>113</i>	<i>37.6-147</i>			

LCS Dup (8052907-BSD1)

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	
<i>Surrogate: 1-Chlorooctane</i>	<i>57.6</i>		mg/kg	<i>50.0</i>		<i>115</i>	<i>41-142</i>			
<i>Surrogate: 1-Chlorooctadecane</i>	<i>57.9</i>		mg/kg	<i>50.0</i>		<i>116</i>	<i>37.6-147</i>			

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 RIDGI
 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							
----------	----	------	-----------	--	--	--	--	--	--	--

LCS (B805216-BS1)

Prepared & Analyzed: 30-May-18

Chloride	242	10.0	mg/kg wet	250		96.7	85-115			
----------	-----	------	-----------	-----	--	------	--------	--	--	--

LCS Dup (B805216-BSD1)

Prepared & Analyzed: 30-May-18

Chloride	241	10.0	mg/kg wet	250		96.2	85-115	0.456	20	
----------	-----	------	-----------	-----	--	------	--------	-------	----	--

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

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

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TRC Solutions

BILL TO

ANALYSIS REQUEST

Project Manager: Joel Lowry

P.O. #: Company: Plains Marketing

Address: 10 Desta Dr Suite 150E

Attn: Amber Groves

City: Midland State: TX Zip: 79705

Address: 1911 Connie Rd

Phone #: 432-466-4450 Fax #:

City: Carlsbad

Project #: SRS Pending Project Owner:

State: NM Zip: 88220

Project Name: Mewbourne Forty Niner Ridge Unit 103

Phone #:

Project Location: Eddy Co, NM

Fax #:

Sampler Name: Becky Griffin

MATRIX PRESERV/ SAMPLING

FOR LAB USE ONLY

Lab I.D. Sample I.D.

HS01449

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS	Yes	No	Add'l Phone #:	Add'l Fax #:	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :								
1	NSW-1		X			X				5/24/18	13:10	X					
2	NSW-2		X			X					13:20	X					
3	NSW-3		X			X					13:40	X					
4	ESW-1		X			X					13:50	X					
5	ESW-2		X			X					14:00	X					
6	WSW-1		X			X					14:10	X					
7	WSW-2		X			X					14:20	X					
8	SSW-1		X			X					14:30	X					
9	SSW-2		X			X					14:40	X					
10	SSW-3		X			X						X					

PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising from this contract or test, shall be limited to the amount paid by the client for the analysis. 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 remedies or otherwise.

Relinquished By: *Becky Griffin* Date: 5/25/18

Received By: *Amber Groves*

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

REMARKS:

Relinquished By: *Becky Griffin*

Received By: *Amber Groves*

Sample Condition: *3.3c* Cool Intact Other
 CHECKED BY: *TS #75* (Initials)

10/23

LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

2 of 3

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

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H801449	SP-1 @ 3'		X						5:24	8:00	X BTEX TH 8021	
	SP-2 @ 2'		X						8:10	8:20	X X X	
	SP-3 @ 2'		X						8:20	8:30	X X X	
	SP-4 @ 2'		X						8:40	8:50	X X X	
	SP-5 @ 2'		X								X X X	
	SP-6 @ 2'		X								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: *Becky Griffin* Date: 5-25-18 Received By: *Jawana White* Date: 5:35
 Relinquished @: *Becky Griffin* Date: Received By: *Jawana White* Date: Time: Time:

Delivered By: (Circle One) *3.3c* Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: *Consulted 5:25c* Checked BY: *TO HNS* (Initials)
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

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 **124609**

1. PAGE ___ OF ___

2. TRAILER NO. **151**

G E N E R A T O R	3. COMPANY NAME Plains Marketing, LP	4. ADDRESS 505 Big Spring Suite 600	5. PICK-UP DATE 6/22/2018		
	PHONE NO. (713) 646-4100	CITY STATE ZIP Midland TX 79701	6. TNRCC I.D. NO.		
N E W R E G I S T E R E D	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.
	b.				
	c.				
A U T H O R I Z E D	12. COMMENTS OR SPECIAL INSTRUCTIONS: MEWBOURNE FORTY NINER RIDGE UNIT # 103-H <i>TP 130P80</i>		13. WASTE PROFILE NO. 708588		
	14. IN CASE OF EMERGENCY OR SPILL, CONTACT				
T R A N S P O R T E R S	NAME JOE ONTIVEROS		PHONE NO. 575-887-4048	24-HOUR EMERGENCY NO.	
	15. GENERATOR'S CERTIFICATION: I Herby 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				
D I S P O S I T I O N A L F A C I L I T Y	PRINTED/TYPED NAME		SIGNATURE		DATE
	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:		
D I S P O S I T I O N A L F A C I L I T Y	18. TRANSPORTER (1): Acknowledgment of receipt of material PRINTED/TYPED NAME <i>Hector Bencon</i> 6/22/2018		19. TRANSPORTER (2): Acknowledgment of receipt of material PRINTED/TYPED NAME _____		
	SIGNATURE <i>[Signature]</i> DATE _____		SIGNATURE _____ DATE _____		
D I S P O S I T I O N A L F A C I L I T 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 Herby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.				
D I S P O S I T I O N A L F A C I L I T Y	AUTHORIZED SIGNATURE <i>[Signature]</i>		CELL NO.	DATE 6/22/2018	TIME 10:15
	<i>[Signature]</i>		<i>[Signature]</i>		

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

JFR
03

NON-HAZARDOUS WASTE MANIFEST

NO **124610**

1. PAGE ___ OF ___

2. TRAILER NO. **03**

G E N E R A T O R	3. COMPANY NAME Plains Marketing, LP		505 Big Spring Suite 600		5. PICKUP DATE 6/22/2018	
	PHONE NO. (713) 646-4100	CITY Midland	STATE TX	ZIP 79701	6. TNRCC I.D. NO.	
N E M O U R E D	7. NAME OR DESCRIPTION OF WASTE SHIPPED: Non-Regulated, Non Hazardous Waste				8. CONTAINERS No. 1 Type CM	9. TOTAL QUANTITY
	b.					
	c.					
A C C E P T A N C E	12. COMMENTS OR SPECIAL INSTRUCTIONS: MEWBOURNE FORTY NINER RIDGE UNIT # 103-H <i>Te 118,280</i>				13. WASTE PROFILE NO. 709599	
	14. IN CASE OF EMERGENCY OR SPILL, CONTACT					
O F F I C E	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					
T R A N S P O R T E R S	PRINTED/TYPED NAME			SIGNATURE		DATE
	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:		
D I S P O S I T Y	18. TRANSPORTER (1): Acknowledgment of receipt of material PRINTED/TYPED NAME Jess Leyva DATE 6/22/2018 SIGNATURE <i>Jess Leyva</i> DATE			19. TRANSPORTER (2): Acknowledgment of receipt of material PRINTED/TYPED NAME _____ DATE SIGNATURE _____ DATE		
	Lea Land, LLC		ADDRESS: Mile Marker 64, U.S. Hwy 62/180, 30 Miles East of Carlsbad, NM		PHONE: 575-887-4048	
L E A L A N D	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 <i>Santos Gonzalez</i>		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	3. COMPANY NAME Plains Marketing, LP	4. ADDRESS 505 Big Spring Suite 600			5. PICK-UP DATE 6/25/2018					
	PHONE NO. (713) 648-4100				CITY Midland	STATE TX	ZIP 79701	6. TNRCC I.D. NO.		
E	7. NAME OR DESCRIPTION OF WASTE SHIPPED:				8. CONTAINERS		9. TOTAL	10. UNIT	11. TEXAS	
	a. Non-Regulated, Non Hazardous Waste				No.	Type	QUANTITY	Wt/Vol.	WASTE ID #	
	b.									
	c.									
R	d. WT: 40320 43040									
	12. COMMENTS OR SPECIAL INSTRUCTIONS: Totale 83360						13. WASTE PROFILE NO. 708588			
A	14. IN CASE OF EMERGENCY OR SPILL, CONTACT									
	NAME JOE ONTIVEROS		PHONE NO. 575-887-4048			24-HOUR EMERGENCY NO.				
O	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	
T	16. TRANSPORTER (1)				17. TRANSPORTER (2)					
	NAME: M MATA TRUCKING/TRC				NAME:					
	TEXAS I.D. NO.				TEXAS I.D. NO.					
	IN CASE OF EMERGENCY CONTACT: KURT STANLEY MANUEL MATA				IN CASE OF EMERGENCY CONTACT:					
R	EMERGENCY PHONE: (432) 569-3293 / (506) 31-3231				EMERGENCY PHONE:					
	18. TRANSPORTER (1): Acknowledgment of receipt of material				19. TRANSPORTER (2): Acknowledgment of receipt of material					
	PRINTED/TYPED NAME Manuel A. Mata				PRINTED/TYPED NAME					
	SIGNATURE [Signature]				SIGNATURE					
D	16. 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 [Signature]				CELL NO.		DATE 6/25/2018		TIME 10:00	

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

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

MAY 15 2018

Form C-141
Revised April 3, 2017

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

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.*

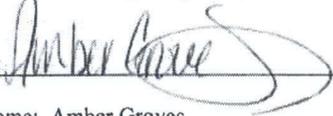
Describe Cause of Problem and Remedial Action Taken.*

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.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Amber Groves	Signed By:  Approved by Environmental Specialist	
Title: Remediation Coordinator	Approval Date: 5/15/18	Expiration Date: N/A
E-mail Address: algroves@paalp.com	Conditions of Approval: See Attached	
Date: 5/15/2018 Phone: 575-200-5517	Attached <input type="checkbox"/> 2pp-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; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

Jim Griswold

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

Bratcher, Mike, EMNRD

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*

Attention:

The information contained in this message and/or attachments is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. If you received this in error, please contact the Plains Service Desk at 713-646-4444 and delete the material from any system and destroy any copies.

This footnote also confirms that this email message has been scanned for Viruses and Content and cleared.